

Comprehensive Examination CSE - 2019 Batch

S.NO.	Questions	Choices	Answers																																																												
1	<p>Given the following state table of an FSM with two states A and B, one input and one output:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Present State</th> <th>Present State</th> <th>Input</th> <th>Next State A</th> <th>Next State B</th> <th>Output</th> </tr> <tr> <th>State A</th> <th>B</th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> </tr> </tbody> </table> <p>If the initial state is A=0, B=0, what is the minimum length of an input string which will take the machine to the state A=0, B=1 with Output = 1?</p>	Present State	Present State	Input	Next State A	Next State B	Output	State A	B					0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	1	0	1	1	0	1	0	0	0	0	1	0	1	0	0	1	1	0	0	1	1	0	1	0	1	1	1	1	1	0	0	1	<p>1. 1 2. 5 3. 2. 4. 4. 5. 3. 6. 6.</p>	1.0
Present State	Present State	Input	Next State A	Next State B	Output																																																										
State A	B																																																														
0	0	0	0	0	1																																																										
0	1	0	1	0	0																																																										
1	0	0	0	1	0																																																										
1	1	0	1	0	0																																																										
0	0	1	0	1	0																																																										
0	1	1	0	0	1																																																										
1	0	1	0	1	1																																																										
1	1	1	0	0	1																																																										
2	(a+b)(cd)*(a+b) denotes the following set	<p>1. $\{a(cd)^n b n \geq 1\}$ 2. $\{a(cd)^{n \geq 1}\} \cup \{b(cd)^{n \geq 1}\}$ 3. $\{a(cd)^n a n \geq 0\} \cup \{a(cd)^n b n \geq 0\} \cup \{b(cd)^n a n \geq 0\} \cup \{b(cd)^n b n \geq 0\}$ 4. $\{ac^n d^n b n \geq 1\}$</p>	3.0																																																												
3	-24 is 2's complement form is	<p>1. 11101000 2. 01111111 3. 01001000 4. 00111111</p>	1.0																																																												
4	A 2 bit binary multiplier can be implemented using	<p>1. 2 input ANDs only 2. 2 input X-ORs and 4-input AND gates only 3. XOR gates and shift registers 4. Two (2) input NORs and one XNOR gate</p>	2.0																																																												
5	A _____ registrar stores the intermediate arithmetic and logic results in it.	<p>1. Address registrar 2. Program counter 3. Index registrar 4. Accumulator</p>	4.0																																																												

S.NO.	Questions	Choices	Answers
6	A class is a	1. Structure 2. Memory 3. Template 4. Function	3.0
7	A constructor without any arguments is	1. default constructor 2. parameterized constructor 3. none 4. overloading	1.0
8	A default constructor is one that	1. that takes all default arguments 2. have to be called explicitly 3. gets called automatically 4. does take many parameters	1.0
9	A finite automata that will accept only string X of length n will have _____ many states	1. n 2. n/2 3. n+1 4. infinite	3.0
10	A friend function to a class A cannot access	1. the data members of the derived class of A. 2. public data members and member functions. 3. protected data members and member functions. 4. private data members and member functions.	1.0
11	A property which is not true for classes is that they	1. Can closely model objects in the real world. 2. bring together all aspects of an entity in one place. 3. permit data to be hidden from other classes. 4. are removed from memory when not in use.	2.0
12	A quadruple is a record structure with _____ fields.	1. 3 2. 4 3. 1 4. 2	2.0
13	A Stack-organised Computer uses instruction of	1. Zero addressing 2. Two-addressing 3. Indirect addressing 4. Index addressing	1.0
14	Access to private data is	1. Restricted to methods of the same class 2. Restricted to methods of other classes 3. Available to methods of the same class and other classes 4. Not an issue because the program will not compile	1.0
15	All member functions are _____ to its class by default	1. constant 2. non static 3. dynamic 4. static	4.0
16	An LALR(1) parser for a grammar G can have shift-reduce (S-R) conflicts if and only if	1. The LR(1) parser for G has S-R conflicts. 2. The LR(0) parser for G has S-R conflicts. 3. The LALR(1) parser for G has reduce-reduce conflicts 4. The SLR(1) parser for G has S-R conflicts.	1.0
17	An optimizing compiler	1. Is optimized to occupy less space 2. Optimized the code 3. Is optimized to take less time for execution 4. Secured Code	2.0

S.NO.	Questions	Choices	Answers
18	An unambiguous grammar has	1. Exactly one leftmost derivation for a string w 2. At most one leftmost and one rightmost derivation for a string w 3. At most one rightmost derivation for a string w 4. Exactly one leftmost and rightmost derivation for a string w	1.0
19	An unambiguous grammar has	1. Exactly one leftmost derivation for a string w 2. At most one leftmost and one rightmost derivation for a string w 3. At most one rightmost derivation for a string w 4. Exactly one leftmost and rightmost derivation for a string w	1.0
20	ASCII, EBCDIC, and Unicode are examples of -----	1. integrated circuits 2. binary coding schemes 3. two-state systems 4. adapter cards	1.0
21	baa*c denotes the set	1. $\{b^na^mc^p n,m,p \geq 1\}$ 2. $\{ba^nc n \geq 0\}$ 3. $\{ba^nc n \geq 1\}$ 4. $\{w w \text{ is a string of } a,b,c\}$	3.0
22	BCD to seven segment is a	1. encoder 2. carry look ahead 3. comparator 4. decoder	1.0
23	Calculate the person months for a project that was completed in two months with two people working on it.	1. 2 2. 4 3. 1 4. 8	2.0
24	class A { int a; static float b; } ; What is the size of class A?	1. sizeof(int) * 2 2. sizeof(int) + sizeof(float) 3. sizeof(int) 4. sizeof(float)	2.0
25	class n{ int a=0;}obj; what will happen?	1. nothing 2. initializes the data member with 0 3. error 4. initializes the object with 0	3.0
26	class n{ public: int *a;}o,p; assigning o=p is called?	1. deep copy 2. shallow copy 3. error 4. constructor	2.0
27	class n{ public: int a; } obj; obj.a=10; cout << a;	1. error 2. 10 3. 1 4. 0	1.0

S.NO.	Questions	Choices	Answers
28	class n{ public: int a=7; } p,q; cout<< n.a;	1. 0 2. error 3. depends on compiler 4. 7	2.0
29	Consider the regular language $L = (111 + 11111)^*$. The minimum number of states in any DFA accepting the language is	1. 3 2. 5 3. 8 4. 9	4.0
30	Content of the program counter is added to the address part of the instruction in order to obtain the effective address is called.	1. index addressing mode. 2. register mode. 3. implied mode. 4. relative address mode.	4.0
31	Data Members of the base class that are marked private:	1. are directly accessible in the derived class 2. are visible in the derived class 3. exist in memory when the object of the derived class is created 4. does exist in memory when the object of the derived class is created	4.0
32	Decimal number 9 in Gray code is	1. 1111 2. 3. 1101 4. 1100 5. 1110	2.0
33	During a software development project two similar requirements defects were detected. One was detected in the requirements phase, and the other during the implementation phase. Which of the following statements is mostly likely to be true?	1. There is no relationship between the phase in which a defect is discovered and its repair cost. 2. The most expensive defect to correct is the one detected during the implementation phase. 3. The most expensive defect to correct is the one detected during the requirements phase. 4. The cost of fixing either defect will usually be similar.	2.0
34	Effective software project management focuses on four P's which are	1. people, product, process, project 2. people, product, performance, process 3. people, performance, payoff, product 4. people, process, payoff, product	1.0
35	FAT file system is	1. Indexed Allocation and used in Windows OS 2. used in Windows OS 3. about storage in RAM 4. Indexed Allocation.	1.0
36	Files whose names end in .h are called _____ files	1. helper 2. header 3. handy 4. helping	2.0

S.NO.	Questions	Choices	Answers
37	Finite automata recognizes -----grammars	1. type-1 2. type-3 3. type-0 4. type-2	2.0
38	Floating point representation is used to store _____.	1. Boolean values 2. real integers 3. integers 4. whole numbers	2.0
39	Function templates can accept	1. Only parameters of the basic type 2. Only one parameter 3. Any type of parameters 4. Only parameters of the derived type	1.0
40	Functional requirements of a system is modelled using	1. Use-case Diagram 2. Sequence Diagram 3. Class Diagram 4. Package Diagram	1.0
41	Given an arbitrary non-deterministic finite automaton (NFA). with N states, the maximum number of states in an equivalent minimized DFA is at least.	1. N^2 2. $2N$ 3. 2^N 4. $N!$	3.0
42	Given the language $L = \{ab, aa, baa\}$, which of the following strings are in L^* ? 1) abaabaaaabaa 2) aaaabaaaa 3) baaaaabaaaab 4) baaaaabaaa	1. 1, 2 and 3 2. 2, 3 and 4 3. 1, 2 and 4 4. 1, 3 and 4	3.0
43	Having more than one constructor in a class is	1. not possible 2. compile time polymorphism 3. constructor overriding 4. error	3.0
44	How many DFAs exit with two state over the input alphabet (a,b)	1. 16 2. 26 3. 32 4. 64	4.0
45	How many possible outputs would a decoder have with a 6-bit binary input?	1. 16 2. 64 3. 128 4. 32	2.0

S.NO.	Questions	Choices	Answers
46	How many select lines would be required for an 8-line-to-1-line multiplexer?	1. 2 2. 4 3. 3 4. 8	3.0
47	How many stages are there in process improvement?	1. three 2. four 3. five 4. six	4.0
48	How many two state FA can be drawn over alphabet{0,1} which accepts(0+1)*	1. 12 2. 14 3. 20 4. 15	3.0
49	How will you free the allocated memory ?	1. delete(var-name); 2. dalloc(var-name); 3. free(var-name); 4. remove(var-name);	3.0
50	Identify the invalid statement from the following	1. for (; ;) 2. if (1) 3. break(0) 4. while(false)	3.0
51	If a register containing binary data (11001100) is subjected to arithmetic shift left operation, then the content of the register after 'ashl' shall be	1. (10011000) 2. (11001100) 3. (1101100) 4. (10011001)	1.0
52	If a university sets up web-based information system that faculty could access to record student grades and to advise students, that would be an example of an	1. intranet 2. ERP 3. extranet 4. CRM	1.0
53	If M1 machine recognizing L with n states, then M2 recognizing L* constructed Using Thompson construction will have ----- states.	1. n+2 2. n+1 3. n 4. n-1	2.0
54	If M1 machine recognizing L with n states, then M2 recognizing L* constructed Using Thompson construction will have ----- states.	1. n+2 2. n+1 3. n 4. n-1	2.0
55	If there is a complete DFA M1 recognizing a language L1 and has m states out of which two are final states then the machine M recognizing L1 complement will have _____ final states.	1. m+2 2. m 3. m-2 4. 2	1.0

S.NO.	Questions	Choices	Answers
56	If X is the name of the class, what is the correct way to declare copy constructor of X?	1. X(class X* arg) 2. X(X& arg) 3. X(X* arg) 4. X(X arg)	2.0
57	If you assign a default value to any variable in a function prototype's parameter list, then _____	1. all parameters to the left of that variable must have default values 2. all parameters to the right of that variable must have default values 3. all other parameters in the function prototype must have default values 4. no other parameters in that prototype can have default values	2.0
58	If you want to use a class to define objects in many different programs, you should define the class in a C++ _____ file	1. text 2. source 3. header 4. program	3.0
59	In a BCD-to-seven-segment converter, why must a code converter be utilized?	1. to convert the 4-bit BCD into Gray code 2. to convert the 4-bit BCD into 7-bit code 3. to convert the 4-bit BCD into 10-bit code 4. No conversion is necessary	2.0
60	In C++, dynamic memory allocation is accomplished with the operator _____	1. new 2. this 3. malloc 4. delete	1.0
61	In C++, dynamic memory allocation is achieved with the operator _____	1. malloc() 2. delete 3. new 4. this	3.0
62	In CMM, the life cycle activities of requirements analysis, design, code, and test are described in _____.	1. Software Product Engineering 2. Software Quality Assurance 3. Software Subcontract Management 4. Software Quality Management	1.0
63	In computers, subtraction is generally carried out by _____.	1. 9's complement 2. 2's complement 3. 10's complement 4. 1's complement	2.0
64	In the types of Three-Address statements, copy statements of the form x := y means _____.	1. The value of x is assigned to y or the value of y is assigned to x. 2. The value of x is assigned to y and the value of y is assigned to x. 3. The value of y is assigned to x. 4. The value of x is assigned to y.	3.0
65	Many programmers separate a class into two files: _____	1. one for the primary functions and one for the auxiliary functions 2. one for the public data and one for the private data 3. one for the void functions and one for the other functions 4. one for the declarations and one for the implementations	4.0
66	Multiplication of a positive integer by a power of two can be replaced by left shift, which executes faster on most machines. This is an example of _____.	1. Useless Code 2. Strength Reduction 3. Induction Variable 4. Loop unwinding	2.0

S.NO.	Questions	Choices	Answers
67	One can safely state that the output lines for a demultiplexer are under the direct control of the:	1. input data select lines 2. the internal OR gate 3. the internal AND gates 4. Input data line	1.0
68	Overloading a prefix increment operator by means of a member function takes	1. Three arguments 2. Two arguments 3. No argument 4. One argument	3.0
69	Overloading involves writing two or more functions with _____	1. different names and different argument lists 2. different names and the same argument list 3. the same name and the same argument list 4. the same name and different argument lists	4.0
70	Specify the 2 library functions to dynamically allocate memory?	1. malloc() and calloc() 2. malloc() and memalloc() 3. alloc() and memalloc() 4. memalloc() and faralloc()	1.0
71	State the acronym of POMA in software project management	1. Project Organization Monitoring Adopting 2. Planning Organizing Monitoring Adjusting 3. project oriented maintenance and administration 4. Project Orientation Mapping Adjusting	2.0
72	Templates improve	1. inheritance 2. reusability 3. class 4. functions	2.0
73	The Epsilon-Closure of any state q will contain the state _____ irrespective of q.	1. p 2. Epsilon 3. q 4. Final State	3.0
74	The binary value for 0.4375 is	1. 0.1111 2. 0.0111 3. 0.0011 4. 0.1010	2.0
75	The call to the parameterized constructor of base class in the derived class	1. appears inside the definition of the derived class 2. appears inside the definition of the derived class constructor 3. appears at the statement where the derived class object is created 4. appears in the member initialization list of the derived class constructor	2.0
76	The fundamental notions of software engineering does not account for ?	1. Software reuse 2. Software Security 3. Software Validation 4. Software processes	3.0

S.NO.	Questions	Choices	Answers
77	The language is $L=\{0^p 1^q 0^r \mid p,q,r \geq 0, p \neq r\}$ is	1. Context-sensitive but not context-free 2. Recursive but not Context-free 3. Regular 4. Context-free	4.0
78	The library function used to find the last occurrence of a character in a string is	1. strnstr() 2. strrchr() 3. laststr() 4. strstr()	2.0
79	The major source of data for other systems are:	1. Electronic Switching System 2. Transaction Processing Systems 3. Decision Support System 4. Management Information System	2.0
80	The members of a class in C++ by default, are	1. private 2. protected 3. public 4. mandatory to specify	1.0
81	The minimum length for strings in the regular expression $(0^* + 001^*)^*$ is _____	1. Infinite 2. One 3. Zero 4. Two	3.0
82	The negative numbers in the binary system can be represented by	1. 10's Complement 2. 2's complement 3. Sign magnitude 4. I's complement	2.0
83	The number of full and half-adders required to add 16-bit numbers is	1. 8 half-adders, 8 full-adders 2. 1 half-adder, 15 full-adders 3. 16 half-adders, 0 full-adders 4. 4 half-adders, 12 full-adders	2.0
84	The number of states in a machine M recognizing $L_1 \cup L_2$ will be _____ where n is the number of states in M_1 and m is the number of states in M_2 .	1. $m-n$ 2. $m+n$ 3. $m+n+1$ 4. $n-m$	2.0

S.NO.	Questions	Choices	Answers
85	The number of states in a machine M recognizing L1UL2 will be _____ where n is the number of states in M1 and m is the number of states in M2 .	1. m-n 2. m+n 3. m+n+1 4. n-m	2.0
86	The number of states in DFA is ----- the number of states in NFA for the same Language.	1. Greater then 2. equal to 3. less then 4. greater then or equal to	3.0
87	The processor 80386/80486 and the Pentium processor uses ____ bits address bus:	1. 36 2. 32 3. 16 4. 64	2.0
88	The set of all strings over the alphabet {a,b} (including epsilon) is denoted by	1. $(a+b)^{\infty}$ 2. $a^{\infty}b^{\infty}$ 3. a^*b^* 4. $(a+b)^*$	4.0
89	The set of fundamental assumptions about what products the organization should produce, how and where it should produce them, and for whom they should be produced is	1. organizational culture. 2. behavioral model. 3. rational model. 4. agency theory.	1.0
90	The set of fundamental assumptions about what products the organization should produce, how and where it should produce them, and for whom they should be produced is	1. organizational culture. 2. behavioral model. 3. rational model. 4. agency theory.	1.0
91	The special memory used to store the micro routines of a computer is _____.	1. Control table 2. Control store 3. Control mart 4. Control shop	2.0
92	The system having memory elements are called.	1. sequential circuits 2. complex circuits 3. combinational circuits 4. logic circuits	1.0

S.NO.	Questions	Choices	Answers
93	The term m45 should be made up of at least _____ literals.	1. 6 2. 31 3. 4 4. 5	2.0
94	The three key levels at which responsibility can be defined is at the _____, _____, _____	1. Team, Organization, contractor 2. Project, Strategic, Activity 3. Project, Activity, WBS 4. Project, Organization, Team	4.0
95	The while loop is referred to as a(n) _____ loop because the loop condition is tested at the beginning of the loop	1. priming 2. pretest 3. initial 4. beginning	2.0
96	The word case used in the switch statement represents a	1. global variable in the C++ language 2. function in the C++ language 3. keyword in the C++ language 4. data type in the C++ language	3.0
97	Two access specifiers in C++ are	1. void and free 2. public and private 3. int and double 4. formal and informal	2.0
98	Usecase analysis focuses upon	1. Actors 2. Objects 3. Data 4. Entities	1.0
99	Variables inside parenthesis of functions declarations have _____ level access.	1. Local 2. Global 3. Module 4. Universal	1.0
100	Virtual memory is _____	1. A type of memory used in super computers 2. An illusion of extremely large main memory 3. An extremely large main memory 4. An extremely large secondary memory	2.0
101	WE RECEIVED “404 – PAGE NOT FOUND” MESSAGE, WHEN WE BROWSE THE WEB PAGE. WHICH PROTOCOL PROVIDES THIS MESSAGE?	1. IGP 2. EGP 3. SNMP 4. ICMP	4.0

S.NO.	Questions	Choices	Answers
102	What are the minimum number of 2-to-1 multiplexers required to generate a 2- input AND gate and a 2-input Ex-OR gate?	1. 1 and 2 2. 1 and 3 3. 1 and 1 4. 2 and 2	1.0
103	What does the following declaration mean? int (*ptr)[10];	1. ptr is array of pointers to 10 integers 2. ptr is a pointer to an array of 10 integers 3. ptr is an array of 10 integers 4. ptr is an pointer to array	2.0
104	What is an Accumulator?	1. A Flip flop 2. A counter 3. A Sequential Logic Circuit 4. A Combinational Logic Circuit	3.0
105	What is an ALU?	1. A Combinational Logic Circuit 2. A Sequential Logic Circuit 3. A Combination of Combinational Circuit and Sequential Circuit 4. A flip flop	2,3
106	What is the condition for setting the Overflow flag in status register?	1. Last two sum bits are different 2. Last two carrys are same 3. Last two sum bits are same 4. Last two carrys are different	3.0
107	What is the maximum number of reduce moves that can be taken by a bottom-up parser for a	1. n/2 2. n-1 3. 2n-1 4. 2^n	2.0
108	What is the recommended distribution of effort for a software project?	1. 50-20-30 2. 50-30-20 3. 30-40-30 4. 40-20-40	4.0
109	What is the return type of the conversion operator function?	1. no return type 2. int 3. void 4. float	1.0
110	What is the status of the inputs S0, S1, and S2 of the 74151 eight-line multiplexer in order for the output Y to be a copy of input I5?	1. S0 = 1, S1 = 0, S2 = 1 2. S0 = 1, S1 = 1, S2 = 0 3. S0 = 0, S1 = 1, S2 = 0 4. S0 = 0, S1 = 0, S2 = 1	1.0
111	What is true about constant member function of a class?	1. cannot access any of its class data members 2. cannot modify values of its class data members 3. cannot modify values of its class data members which are mutable 4. can modify values of its class data members	2.0

S.NO.	Questions	Choices	Answers
112	What will be the output of the following code #include void main() { int i; int a[3]=5; for (i=2;i>=0;i--) { printf("%d\n",a[i]); } }	1. 0 0 5 2. 5 0 0 3. 5 garbage garbage 4. 5 null null	3.0
113	When an instruction is read from the memory, it is called	1. Memory Read cycle 2. Fetch cycle 3. Instruction cycle 4. Memory write cycle	3.0
114	When FA M is given which recognizes language L and reverse of L is found by using M then there can be _____ Final states	1. Two 2. Three 3. Only one 4. Any number	3.0
115	When there is complete DFA with Five states out of which two are final states if F is modified such that it recognizes complement of the original language then there will be at least _____ final states.	1. 3 2. 2 3. 5 4. 7	3.0
116	When there is more than one final state in the reduced FA, then its regular expression will contain _____ operator surely	1. dot 2. binary + 3. star 4. unary +	4.0
117	When we concatenate two languages L1 and L2 recognized by machine M1 and M2 we obtain a machine with final state same as that of _____	1. M1 OR M2 2. M1 AND M2 3. M2 4. M1	2.0
118	Which directory implementation is used in most Operating System?	1. Two level directory structure 2. Acyclic directory structure 3. Single level directory structure 4. Tree directory structure	4.0
119	Which is not a proper prototype?	1. double funct(char x) 2. void funct(); 3. char x(); 4. intfunct(char x, char y);	1.0
120	WHICH OF THE BELOW IS CALLED CLASSLESS ADDRESS?	1. 191.168.1.1/24 2. 191.168.1.1/16 3. 191.168.1.1/8 4. 191.168.1.1/4	2.0

S.NO.	Questions	Choices	Answers
121	WHICH OF THE BELOW IS NOT AN EMAIL PROTOCOL?	1. SMTPMP 2. IMAP 3. POP 4. SNMP	4.0
122	Which of the following calls a function named displayName, passing it no actual arguments?	1. call displayName 2. call displayName () 3. displayName 4. displayName()	4.0
123	Which of the following conversion is not possible (algorithmically)?	1. nondeterministic PDA to deterministic PDA 2. nondeterministic FSA to deterministic FSA 3. regular grammar to context-free grammar 4. nondeterministic TM to deterministic TM	1.0
124	Which of the following derivations does a top-down parser use while parsing an input string? The input is assumed to be scanned in left to right order.	1. Leftmost derivation 2. Leftmost derivation traced out in reverse 3. Rightmost derivation 4. Rightmost derivation traced out in reverse	1.0
125	Which of the following functions compares two strings?	1. compare(); 2. cmp(); 3. stringcompare(); 4. strcmp();	4.0
126	Which of the following gives the memory address of a variable pointed to by pointer a?	1. a; 2. *a; 3. &a; 4. address(a);	3.0
127	which of the following intermediate language can be used in intermediate code generation?	1. Quadruples 2. Postfix notation and Three address code 3. Triples 4. Infix notation and two address code	1,3,2
128	Which of the following is a complete function?	1. void funct(int) { printf("Hello"); } 2. int funct(); 3. void funct(x) { printf("Hello"); } 4. int funct(int x) { return x=x+1; }	4.0
129	Which of the following is a valid destructor of the class name "Country"	1. void ~Country() 2. int ~Country(Country obj) 3. int ~Country() 4. Country()	4.0
130	which of the following is an incorrect definition inside a class ?	1. void * operator new () {} 2. int operator ++() {} 3. void operator delete(void * ptr) {} 4. void * operator new(size_t size) {}	2.0

S.NO.	Questions	Choices	Answers
131	Which of the following is correct for a gated <i>D</i> flip-flop?	1. The output toggles if one of the inputs is held HIGH. 2. Only one of the inputs can be HIGH at a time. 3. The output complement follows the input when enabled. 4. <i>Q</i> output follows the input <i>D</i> when the enable is HIGH.	4.0
132	Which of the following is not a technology driver for an information system?	1. Collaborative technologies 2. Knowledge asset management 3. Enterprise applications 4. Object technologies	2.0
133	Which of the following is not a type of constructor?	1. Copy Constructor 2. Friend Constructor 3. Default Constructor 4. Parametrized Constructor	2.0
134	Which of the following is the insertion operator?	1. /* 2. // 3. << 4. >>	4.0
135	Which of the following is/are main parameters that you should use when computing the costs of a software development project?	1. Hardware and software costs 2. Effort costs (the costs of paying software engineers and managers) 3. Travel and training costs 4. All the parameters required given in the option.	4.0
136	Which of the following language feature is not an access specifier in C++?	1. internal 2. protected 3. public 4. private	1.0
137	Which of the following regular expression denotes a language comprising of all possible strings over {a,b} of length n where n is a multiple of 3?	1. (aaa+ab+a)+(bbb+bb+a) 2. ((a+b) (a+b) (a+b))* 3. (aaa+bbb)* 4. (a+b+aa+bb+aba+bba)*	2.0
138	Which of the following regular expression identities are true?	1. r* s* = r* + s* 2. (r + s)* = (r*s*)* 3. (r + s)* = r* + s* 4. (r + s)* = r* s*	2.0
139	Which of the following results in a compile-time error?	1. int f2() { static int i; i++; return i; } 2. int f3(static int i) { return 300; } 3. static int f1() { return 100; } 4. static int a;	3.0

S.NO.	Questions	Choices	Answers
140	Which of the following scheduling algorithm comes under preemptive scheduling?	1. FCFS 2. Round Robin 3. Multilevel Queue Scheduling 4. Largest Job First	2.0
141	Which of the following special symbol is allowed in a variable name?	1. _ (underscore) 2. - (hyphen) 3. (pipeline) 4. * (asterisk)	1.0
142	Which of the following statement is false? 142	1. For $R = R1^*$, $L(R)$ is empty if and only if $L(R1)$ is empty 2. For $R = (R1)$, $L(R)$ is empty if and only if $L(R1)$ is empty 3. For $R = R1R2$, $L(R)$ is empty if and only if either $L(R1)$ or $L(R2)$ is empty. 4. If $R = R1 + R2$, $L(R)$ is empty if and only if both $L(R1)$ and $L(R2)$ are empty.	1.0
143	Which of the following statement is false? 143	1. If there is a PDA by acceptance state that accept L, then there is also a PDA by empty stack that accept L 2. If there is a NPDA that accept L, then there is also a DPDA that accept L. 3. If there is a PDA by empty stack, then there is also a CFG G that accept L. 4. If there is a CFG G that accepts L, then there is also a PDA that accept L.	
144	Which of the following statements is/are FALSE? 144	1. Turing recognizable languages are closed under union and complementation. 2. Turing decidable languages are closed under intersection and complementation 3. Turing recognizable languages are closed under union and intersection. 4. For every non-deterministic Turing machine, there exists an equivalent deterministic Turing machine.	
145	Which of the following suffices to convert an arbitrary CFG to an LL(1) grammar? 145	1. Removing left recursion alone 2. Factoring the grammar alone 3. Removing left recursion and factoring the grammar 4. Removing left recursion, left factoring and ambiguity of the grammar	4.0
146	Which of the following ways are legal to access a class data member using this pointer? 146	1. this.x 2. *this.x 3. this->x 4. *this-x	3.0
147	Which one of the following is a top-down parser? 147	1. An LR(k) parser. 2. An LALR(k) parser 3. Operator precedence parser. 4. Recursive descent parser.	4.0

S.NO.	Questions	Choices	Answers
148	Which one of the following is a valid project Key Performance Indicator (KPI)?	1. Master schedule. 2. Staff appraisals. 3. Management buy in. 4. Milestone achievement.	4.0
149	Which one of the following is the correct way to declare a pure virtual function?	1. virtual void Display(void){0}; 2. void Display(void) = 0; 3. virtual void Display(void) = 0; 4. virtual void Display = 0;	3.0
150	Which one of the following languages over alphabet {0,1} is described by the regular expression: $(0+1)^*0(0+1)^*0(0+1)^*$?	1. The set of all strings containing at least two 0's 2. The set of all strings that begin and end with either 0 or 1. 3. The set of all strings containing at most two 0's. 4. The set of all strings containing the substring 00.	1.0
151	Which one of the following models is not suitable for accommodating any change?	1. Build & Fix Model 2. RAD Model 3. Waterfall Model 4. Prototyping Model	3.0
152	Which one of the following regular expressions over {0,1} denotes the set of all strings not containing 100 as a substring?	1. $0^*(11^*)^*$ 2. 0^*1^*01 3. $0^*(10+1)^*$ 4. 0^*1010^*	1234.0
153	Which one of the following statements best defines the purpose of a Product Breakdown Structure (PBS)?	1. To identify the health and safety strategies and procedures to be used on the project 2. To establish the extent of work required prior to project commissioning and the handover 3. To define how the products are produced by identifying derivations and dependencies 4. To define the hierarchy of deliverables that are required to be produced on the project	4.0
154	Who owns the Project Management Plan (PMP)?	1. The project team. 2. The chief executive. 3. The project manager. 4. The project support office.	3.0
155	Write the regular expression to denote the language L over $\Sigma = \{a, b\}$ such that all the strings do not contain the substring "ab".	1. a^*b^* 2. b^*a^* 3. $(ab)^*$ 4. $(ba)^*$	24.0
156	Zero address instruction format is used for	1. Von-Neuman architecture 2. RISC architecture 3. CISC architecture 4. Stack-organized architecture	4.0

S.NO.	Questions	Choices	Answers
157	In a slab under steady state conduction if the thermal conductivity increases along the thickness, the temperature gradient along the direction will become	1. Steeper 2. Flatter 3. Constant 4. mixed pattern	3.0
158	The temperature of a gas stream is to be measured by a thermocouple whose junction can be approximated as 1-mm-dia sphere. The properties of the junction are $k = 35 \text{ W/m}^{\circ}\text{C}$, $\rho = 8500 \text{ kg/m}^3$, and $C_p = 320 \text{ J/kg}^{\circ}\text{C}$, and the convection heat transfer coefficient between the junction and the gas is $h = 210 \text{ W/m}^2^{\circ}\text{C}$. The time taken by the thermocouple to read 99 percent of the initial temperature difference	1. 2 sec 2. 10 sec 3. 28 sec 4. 63 sec	3.0
159	Assuming flow to be laminar, if the diameter of the pipe is halved, then the pressure drop will	1. increase 2. decrease 3. remain same 4. be quadrupled	1.0
160	Dimension of absolute viscosity is	1. $ML^{-1}T^{-1}$ 2. MLT^{-1} 3. $ML^{-1}T$ 4. MLT	1.0
161	Which of the following is minimum error code?	1. Octal code 2. Grey code 3. Binary code 4. Excess 3 code	2.0
162	When used with an IC, what does the term "QUAD" indicate?	1. 4 circuits 2. 2 circuits 3. 8 circuits 4. 6 circuits	1.0

S.NO.	Questions	Choices	Answers
163	Adding 1001 and 0010 gives	1. 1011 2. 1111 3. 0 4. 1010	1.0
164	Radix of binary number system is ____?	1. 0 2. 1 3. 4. 2 A&B	3.0
165	SR Flip flop can be converted to T-type flip-flop if ?	1. is connected to Q 2.R is connected to Q 3.Both S and R are shortend 4.S and R are connected to Q and Q' respectively	4.0
166	The main difference between JK and RS flip-flop is that?	1. JK flip-flop does not need a clock pulse 2. there is feedback in JK flip-flop 3. JK flip-flop accepts both inputs as 1 4. JK flip-flop is acronym of junction cathode multivibrator	3.0
167	Register is a -----	1.Set of capacitor used to register input instructions in a digital computer 2.Set of paper tapes and cards put in a file 3. Temporary storage unit within the CPU having dedicated or general purpose use 4.Part of the auxiliary memory	3.0
168	Magnitude comparator compares using operation of	1. addition 2. subtraction 3. multiplication 4. division	xnor1

S.NO.	Questions	Choices	Answers
169	An SR flip flop cannot accept the following input entry	1. Both input zero 2. zero at R and one at S 3. zero at S and one at R 4. Both inputs one	4.0
170	One operation that is not given by magnitude comparator	1. equal 2. less 3. greater 4. addition	2.0
171	Automaton accepting the regular expression of any number of a's is:	1. a* 2. a 3. a*b* 4. abc	1.0
172	Let L be a set accepted by a nondeterministic finite automaton. The number of states in nondeterministic finite automaton is Q . The maximum number of states in equivalent finite automaton that accepts L is	1. Q 2. 2 Q 3. 2 raise to power Q *1 4. 2 raise to power Q 	4.0
173	Number of final state require to accept $\Phi(\phi)$ in minimal finite automata.	1. 4 2. 3. 3. 1 4. 0	4.0

S.NO.	Questions	Choices	Answers
174	The embedded c program is converted by cross compiler to	<p>1. the machine code corresponding to the processor of the PC used for application development</p> <p>2. the machine code corresponding to a processor which is different from the processor of the PC used for application development</p> <p>3. the machine code for all the microcontrollers</p> <p>4. assemble code of the PC used for application development</p>	2.0
175	The regular expression $0^*(10^*)^*$ denotes the same set as	<p>1. $(1*0)^*1^*$</p> <p>2. $0 + (0 + 10)^*$</p> <p>3. $(0 + 1)^* 10(0 + 1)^*$</p> <p>4. $(0+1)^*$</p>	1.0
176	<p>Which of the following statements is/are FALSE?</p> <p>(1) For every non-deterministic Turing machine, there exists an equivalent deterministic Turing machine.</p> <p>(2) Turing recognizable languages are closed under union and complementation.</p> <p>(3) Turing decidable languages are closed under intersection and complementation</p> <p>(4) Turing recognizable languages are closed under union and intersection.</p>	<p>1. 1 and 4 only</p> <p>2. 1 and 3 only</p> <p>3. 2 only</p> <p>4. 3 only</p>	3.0
177	Two automata are equal when	<p>1. both are under union</p> <p>2. both are under same language</p> <p>3. both are having equal number of states</p> <p>4. both are having same number of final states</p>	2.0

S.NO.	Questions	Choices	Answers
178	What is the minimum number of states needed to a DFA over $\Sigma = \{a, b\}$ which accept those words from Σ such that the number of a is even and the number of b is divisible by three.	1. 2 states 2. 4 states 3. 6 states 4. 5 states	3.0
179	<i>If a language is denoted by a regular expression</i> $L = (x)^*(x \mid yx)$, <i>then which of the following is not a legal string within L ?</i>	1. yx 2. xyx 3. x 4. xyxyx	4.0
180	The CFG $s \rightarrow^* as \mid bs \mid a \mid b$ is equivalent to regular expression	1. (a + b) 2. (a + b)(a + b)* 3. (a + b)(a + b) 4. (a + b)(a + b)(a + b)(a + b)	2.0
181	-----is used to check whether the language is not regular.	1. Pumping Lemma 2. RE 3. MN Theorem 4. Pigeon hole principle	1.0
182	The minimum number of page frames that must be allocated to a running process in a virtual memory environment is determined by	1. the instruction set architecture 2. page size 3. physical memory size 4. number of processes in memory	1.0

S.NO.	Questions	Choices	Answers
183	A computer has a 256 KByte, 4-way set associative, write back data cache with block size of 32 Bytes. The processor sends 32 bit addresses to the cache controller. Each cache tag directory entry contains, in addition to address tag, 2 valid bits, 1 modified bit and 1 replacement bit. The size of the cache tag directory is	1. 11 2. 14 3. 27 4. 16	4.0
184	Pre-emptive scheduling is the strategy of temporarily suspending a running process	1. before the CPU time slice expires 2. to allow starving processes to run 3. when it requests IO 4. None of mentioned	1.0
185	Multiprogramming systems _____	1. Are easier to develop than single programming systems 2. Execute each job faster 3. Execute more jobs in the same time 4. Are used only on large main frame computers	3.0
186	The DMA controller has _____ registers	1. 4 2. 3. 3 4. 1	3.0
187	The truth table X Y f(X,Y) 0 0 0 0 1 0 1 0 1 1 1 1 represents the Boolean function	1. X 2. X+Y 3. X'Y' 4. Y	1.0

S.NO.	Questions	Choices	Answers
188	Which of the following regular expression denotes a language comprising of all possible strings over $\Sigma = \{a,b\}$ of length n where n is a multiple of 3?	1. $(a+b+aa+bb+aba+bba)^*$ 2. $(aaa+bbb)^*$ 3. $((a+b)(a+b)(a+b))^*$ 4. $(aaa+ab+a)+(bbb+bb+a)$	3.0
189	Which of the following statement is true?	1.NFA is more powerful than DFA 2.DFA is more powerful than NFA 3. 4.NFA and DFA have equal power	3.0
190	Assume that a mergesort algorithm in the worst case takes 30 seconds for an input of size 64. Which of the following most closely approximates the maximum input size of a problem that can be solved in 6 minutes?	1.256 2.2048 3.1024 4.512	4.0
191	ElGamal encryption system is:	1. symmetric key encryption algorithm 2. asymmetric key encryption algorithm 3. not an encryption algorithm 4. none of the mentioned	2.0
192	#include < stdio.h > int main() { typedef auto int AI; AI var=100; printf("var=%d",var); return 0; } Find the output	1. var=100 2. var=AI 3. var=0 4. Error	4.0
193	#include < stdio.h > int main() { typedef char* string; string myName="ABCDEFG"; printf("myName=%s (size=%d)",myName,sizeof(myName)); return 0; } Find the output	1. myName=ABCDEFG(size=7) 2. Error 3. myName=ABCDEFG(size=4) 4. myName=ABCDEFG(size=8)	4.0
194	#include < stdio.h > int main() { typedef int AAA,BBB,CCC,DDD; AAA aaa=10; BBB bbb=20; CCC ccc=30; DDD ddd=40; printf("%d,%d,%d,%d",aaa,bbb,ccc,ddd); return 0; } Find the output	1. Error 2. 10,10,10,10 3. 10,20,30,40 4. AAA, BBB, CCC, DDD	3.0

S.NO.	Questions	Choices	Answers
195	<pre>#include <stdio.h> int main() { typedef struct { int empid; int bsal; }EMP; EMP E={10012,15100}; printf("%d,%d",E.empid,E.bsal); return 0; }</pre> <p>Find the output</p>	1. 10012,12100 2. 0,0 3. Error 4. 10012,10012	1.0
196	<pre>#include <stdio.h> void main() { unsigned char var=0; for(var=0;var<=255;var++) { printf("%d ",var); } }</pre> <p>Find the output</p>	1. 0 1 2 ... 255 2. 255 3. 256 4. blank screen as output	1.0
197	<pre>#include <stdio.h> #define MOBILE 0x01 #define LAPPY 0x02 int main() { unsigned char item=0x00; item =MOBILE; item =LAPPY; printf("I have purchased ...:"); if(item & MOBILE){ printf("Mobile, "); } if(item & LAPPY){ printf("Lappy"); } return 1; }</pre>	1. I have purchased ...: 2. I have purchased ...:Mobile, Lappy 3. I have purchased ...:Mobile, 4. I have purchased ...:Lappy	2.0
198	<pre>#include <stdio.h> int main() { char flag=0x0f; flag &= ~0x02; printf("%d",flag); return 0; }</pre> <p>Predict the Output.</p>	1. 13 2. d 3. 22 4. 10	1.0
199	<pre>#include <stdio.h> int main() { int a=10; int b=2; int c; c=(a & b); printf("c= %d",c); return 0; }</pre> <p>Find the output.</p>	1. c = 12 2. c = 10 3. c = 2 4. c = 0	3.0

S.NO.	Questions	Choices	Answers
200	<pre>#include <stdio.h> #define FUN(x,y) x##y int main() { int a=10,a2=20; printf("%d...%d",FUN(a,1),FUN(a,2)); return 0; } Find the output</pre>	1. Error 2. 10...10 3. 20...20 4. 10...20	4.0
201	<pre>#include <stdio.h> #define LARGEST(x,y) (x>=y)?x:y int main() { int a=10,b=20,l=0; l=LARGEST(a++,b++); printf("a=%d,b=%d,largest=%d",a,b,l); return 0; } Find the output</pre>	1. a=10,b=20,largest=20 2. a=11,b=21,largest=20 3. a=11,b=21,largest=21 4. a=11,b=22,largest=21	4.0
202	<pre>#include <stdio.h> #define MAX 100 int main() { #define MAX 20 printf("MAX=%d...",MAX); return 0; } Find the output</pre>	1. Error 2. MAX=100... 3. MAX=20... 4. MAX=10020	3.0
203	<pre>#include <stdio.h> #define MAX 10 int main() { int array[MAX]={1,2,3},tally; for(tally=0;tally< sizeof(array)/sizeof(int);tally+=1) printf("%d ",*(tally+array)); return 0; } Find the output</pre>	1. Error 2. 1 3 4 5 6 7 8 9 10 11 3. 1 2 3 0 0 0 0 0 0 0 4. 0 0 0 0 0 0 0 0 0 0	3.0
204	<pre>#include <stdio.h> #define MAX 99 int main() { printf("%d...",MAX); #undef MAX printf("%d",MAX); return 0; } Find the output</pre>	1. 99...0 2. 99...99 3. Error 4. MAX...MAX	3.0
205	<pre>#include <stdio.h> #define TEXT IncludeHelp int main() { printf("%s",TEXT); return 0; } Find the output</pre>	1. IncludeHelp 2. TEXT 3. Error 4. TEXT IncludeHelp	3.0

S.NO.	Questions	Choices	Answers
206	<pre>#include <stdio.h> #define TRUE 1 int main() { if(TRUE) printf("1"); printf("2"); else printf("3"); printf("4"); return 0; } Find the output.</pre>	1. 1 2. Error 3. 2 4. 12	2.0
207	<pre>#include <stdio.h> #define TRUE 1 int main() { int loop=10; while(printf("Hello ") && loop--); } Find the output</pre>	1. Hello 2. Hello Hello Hello Hello ... (infinite times) 3. Hello (10 times) 4. Hello (11 times)	4.0
208	<pre>#include <stdio.h> #define VAR1 VAR2+10 #define VAR2 VAR1+20 int main() { printf("%d",VAR1); return 0; } Find the output</pre>	1. VAR2+10 2. VAR1+20 3. Error 4. 10	3.0
209	<pre>#include <stdio.h> #include < string.h > struct student { char name[20]; }std; char * fun(struct student *tempStd) { strcpy(tempStd->name,"Thomas"); return tempStd->name; } int main() { strcpy(std.name,"Mike "); printf("%s%s",std.name,fun(&std)); return 0; } Find the output</pre>	1. Mike Thomas 2. Mike Mike 3. ThomasThomas 4. ThomasMike	3.0
210	<pre>#include <stdio.h> #include <string.h> int main() { char s1[]{"IncludeHelp"}; char s2[10]; strncpy(s2,s1,5); printf("%s",s2); return 0; } Find the output</pre>	1. Inclu 2. IncluGARBAGE_VALUE 3. Error 4. IncludeHelp	1.0

S.NO.	Questions	Choices	Answers
211	<pre>#include <stdio.h> #include <string.h> int main() { char str1[]="IncludeHelp",str2[]=".Com"; printf("%s",str1+strlen(str2)); return 0; }</pre> <p>Find the output</p>	1. IncludeHelp.Com 2. udeHelp 3. Error 4. IncludeHelp4	2.0
212	<pre>#include <stdio.h> #include <string.h> int main() { char str[50]="IncludeHelp"; printf("%d...%d",strlen(str),sizeof(str)); return 0; }</pre> <p>Find the output</p>	1. 50...50 2. 11...50 3. 11...11 4. 50...11	2.0
213	<pre>#include <stdio.h> #include <string.h> int main() { int val=0; char str[]={IncludeHelp.Com}; val=strcmp(str,"includehelp.com"); printf("%d",val); return 0; }</pre> <p>Find the output</p>	1. 0 2. 3. 4. Error	3.0
214	<pre>#include <stdio.h> #define OFF 0 #if debug == OFF int a=11; #endif int main() { int b=22; printf("%d...%d",a,b); return 0; }</pre> <p>Find the output</p>	1. 2. 11...22 3. Error 4. 11...11 5. 22...22	1.0
215	<pre>#include <stdio.h> int main() { char *text="Hi Babs."; char x=(char)(text+3); printf("%c\n",x); return 0; }</pre> <p>Find the output</p>	1. Garbage 2. B 3. Error 4. Null	4.0
216	<pre>#include <stdio.h> int main() { char *text="Hi Babs."; char x=(char)(text[3]); printf("%c\n",x); return 0; }</pre> <p>Find the output</p>	1. Garbage 2. B 3. Error 4. Null	2.0

S.NO.	Questions	Choices	Answers
217	<pre>#include <stdio.h> int main() { int anyVar=10; printf("%d",10); return 0; } extern int anyVar; Find the output</pre>	1. Complie time error 2. 10 3. Run Time error 4. No output	2.0
218	<pre>#include <stdio.h> int main() { int x=2.3; const char c1=(float)x; const char c2=(int)x; printf("%d,%d\n",c1,c2); return 0; } Find the output</pre>	1. Error 2. 2,3,2 3. 2.300000,2 4. 2,2	2.0
219	<pre>#include <stdio.h> struct sample { int a; }sample; int main() { sample.a=100; printf("%d",sample.a); return 0; } Find the output</pre>	1. 0 2. 100 3. ERROR 4. arning	2.0
220	<pre>#include <stdio.h> char* fun1(void) { char str[]="Hello"; return str; } char* fun2(void) { char *str="Hello"; return str; } int main() { printf("%s,%s",fun1(),fun2()); return 0; } Find the output</pre>	1. ERROR 2. Hello,Hello 3. Hello,Garbage 4. Garbage>Hello	4.0
221	<pre>#include <stdio.h> char* strFun(void) { char *str="IncludeHelp"; return str; } int main() { char *x; x=strFun(); printf("str value = %s",x); return 0; } Find the output</pre>	1. str value= Garbage value 2. str value = IncludeHelp 3. Error 4. No output	2.0

S.NO.	Questions	Choices	Answers
222	<pre>#include <stdio.h> int foo(void) { static int num=0; num++; return num; } int main() { int val; val=foo(); printf("step1: %d\n",val); val=foo(); printf("step2: %d\n",val); val=foo(); printf("step3: %d\n",val); return 0; } Find the output</pre>	1. step1: 1 2. step2: 1 3. step3: 1 4. step1: 1 5. step2: 2 6. step3: 3 7. step1: 0 8. step2: 0 9. step3: 0 10. ERROR	2.0
223	<pre>#include <stdio.h> int main() { #ifndef debug printf("Start debugging..."); #endif printf("IncludeHelp"); return 0; } Find the output</pre>	1. Start debugging...IncludeHelp 2. IncludeHelp 3. Error 4. debug	2.0
224	<pre>#include <stdio.h> int main() { int a[5]={0x00,0x01,0x02,0x03,0x04},i; i=4; while(a[i]) { printf("%02d ",*a+i); --i; } return 0; } Find the output</pre>	1. 00 01 02 03 04 2. 04 03 02 01 00 3. 04 03 02 01 4. 01 02 03 04	3.0
225	<pre>#include <stdio.h> int main() { int a[5]={1,2,3,4,5},b[5]={10,20,30,40,50},tally; for(tally=0;tally<5;++tally) *(a+tally)=*(tally+a)+*(b+tally); for(tally=0;tally<5;tally++) printf("%d ",*(a+tally)); return 0; } Find the output</pre>	1. 1 2 3 4 5 2. 10 20 30 40 50 3. 11 22 33 44 55 4. Error	3.0
226	<pre>#include <stdio.h> int main() { static int array[]={10,20,30,40,50}; printf("%d...%d",*array,*array+3)* *array); return 0; } Find the output</pre>	1. Error 2. 10...40 3. 10...300 4. 10...400	4.0

S.NO.	Questions	Choices	Answers
227	<pre>#include <stdio.h> int main() { static int x[]={'A','B','C','D','E'},tally; for(tally=0;tally< sizeof(x)/sizeof(int) ; tally++) printf("%c,%c,%c\n",*(x+tally)+1,x[tally]+1,*(tally+x)+1); return 0; } Find the output</pre>	1. Error 2. A,A,A 3. B,B,B 4. C,C,C 5. D,D,D 6. E,E,E 7. F,F,F 8. G,G,G 9. H,H,H 10. I,I,I 11. J,J,J 12. K,K,K 13. L,L,L 14. M,M,M 15. N,N,N 16. O,O,O 17. P,P,P 18. Q,Q,Q 19. R,R,R 20. S,S,S 21. T,T,T 22. U,U,U 23. V,V,V 24. W,W,W 25. X,X,X 26. Y,Y,Y 27. Z,Z,Z 28. A,A,A 29. B,B,B 30. C,C,C 31. D,D,D 32. E,E,E 33. F,F,F 34. G,G,G 35. H,H,H 36. I,I,I 37. J,J,J 38. K,K,K 39. L,L,L 40. M,M,M 41. N,N,N 42. O,O,O 43. P,P,P 44. Q,Q,Q 45. R,R,R 46. S,S,S 47. T,T,T 48. U,U,U 49. V,V,V 50. W,W,W 51. X,X,X 52. Y,Y,Y 53. Z,Z,Z 54. A,A,A 55. B,B,B 56. C,C,C 57. D,D,D 58. E,E,E 59. F,F,F 60. G,G,G 61. H,H,H 62. I,I,I 63. J,J,J 64. K,K,K 65. L,L,L 66. M,M,M 67. N,N,N 68. O,O,O 69. P,P,P 70. Q,Q,Q 71. R,R,R 72. S,S,S 73. T,T,T 74. U,U,U 75. V,V,V 76. W,W,W 77. X,X,X 78. Y,Y,Y 79. Z,Z,Z 80. A,A,A 81. B,B,B 82. C,C,C 83. D,D,D 84. E,E,E 85. F,F,F 86. G,G,G 87. H,H,H 88. I,I,I 89. J,J,J 90. K,K,K 91. L,L,L 92. M,M,M 93. N,N,N 94. O,O,O 95. P,P,P 96. Q,Q,Q 97. R,R,R 98. S,S,S 99. T,T,T 100. U,U,U 101. V,V,V 102. W,W,W 103. X,X,X 104. Y,Y,Y 105. Z,Z,Z 106. A,A,A 107. B,B,B 108. C,C,C 109. D,D,D 110. E,E,E 111. F,F,F 112. G,G,G 113. H,H,H 114. I,I,I 115. J,J,J 116. K,K,K 117. L,L,L 118. M,M,M 119. N,N,N 120. O,O,O 121. P,P,P 122. Q,Q,Q 123. R,R,R 124. S,S,S 125. T,T,T 126. U,U,U 127. V,V,V 128. W,W,W 129. X,X,X 130. Y,Y,Y 131. Z,Z,Z 132. A,A,A 133. B,B,B 134. C,C,C 135. D,D,D 136. E,E,E 137. F,F,F 138. G,G,G 139. H,H,H 140. I,I,I 141. J,J,J 142. K,K,K 143. L,L,L 144. M,M,M 145. N,N,N 146. O,O,O 147. P,P,P 148. Q,Q,Q 149. R,R,R 150. S,S,S 151. T,T,T 152. U,U,U 153. V,V,V 154. W,W,W 155. X,X,X 156. Y,Y,Y 157. Z,Z,Z 158. A,A,A 159. B,B,B 160. C,C,C 161. D,D,D 162. E,E,E 163. F,F,F 164. G,G,G 165. H,H,H 166. I,I,I 167. J,J,J 168. K,K,K 169. L,L,L 170. M,M,M 171. N,N,N 172. O,O,O 173. P,P,P 174. Q,Q,Q 175. R,R,R 176. S,S,S 177. T,T,T 178. U,U,U 179. V,V,V 180. W,W,W 181. X,X,X 182. Y,Y,Y 183. Z,Z,Z 184. A,A,A 185. B,B,B 186. C,C,C 187. D,D,D 188. E,E,E 189. F,F,F 190. G,G,G 191. H,H,H 192. I,I,I 193. J,J,J 194. K,K,K 195. L,L,L 196. M,M,M 197. N,N,N 198. O,O,O 199. P,P,P 200. Q,Q,Q 201. R,R,R 202. S,S,S 203. T,T,T 204. U,U,U 205. V,V,V 206. W,W,W 207. X,X,X 208. Y,Y,Y 209. Z,Z,Z 210. A,A,A 211. B,B,B 212. C,C,C 213. D,D,D 214. E,E,E 215. F,F,F 216. G,G,G 217. H,H,H 218. I,I,I 219. J,J,J 220. K,K,K 221. L,L,L 222. M,M,M 223. N,N,N 224. O,O,O 225. P,P,P 226. Q,Q,Q 227. R,R,R 228. S,S,S 229. T,T,T 230. U,U,U 231. V,V,V 232. W,W,W 233. X,X,X 234. Y,Y,Y 235. Z,Z,Z 236. A,A,A 237. B,B,B 238. C,C,C 239. D,D,D 240. E,E,E 241. F,F,F 242. G,G,G 243. H,H,H 244. I,I,I 245. J,J,J 246. K,K,K 247. L,L,L 248. M,M,M 249. N,N,N 250. O,O,O 251. P,P,P 252. Q,Q,Q 253. R,R,R 254. S,S,S 255. T,T,T 256. U,U,U 257. V,V,V 258. W,W,W 259. X,X,X 260. Y,Y,Y 261. Z,Z,Z 262. A,A,A 263. B,B,B 264. C,C,C 265. D,D,D 266. E,E,E 267. F,F,F 268. G,G,G 269. H,H,H 270. I,I,I 271. J,J,J 272. K,K,K 273. L,L,L 274. M,M,M 275. N,N,N 276. O,O,O 277. P,P,P 278. Q,Q,Q 279. R,R,R 280. S,S,S 281. T,T,T 282. U,U,U 283. V,V,V 284. W,W,W 285. X,X,X 286. Y,Y,Y 287. Z,Z,Z 288. A,A,A 289. B,B,B 290. C,C,C 291. D,D,D 292. E,E,E 293. F,F,F 294. G,G,G 295. H,H,H 296. I,I,I 297. J,J,J 298. K,K,K 299. L,L,L 300. M,M,M 301. N,N,N 302. O,O,O 303. P,P,P 304. Q,Q,Q 305. R,R,R 306. S,S,S 307. T,T,T 308. U,U,U 309. V,V,V 310. W,W,W 311. X,X,X 312. Y,Y,Y 313. Z,Z,Z 314. A,A,A 315. B,B,B 316. C,C,C 317. D,D,D 318. E,E,E 319. F,F,F 320. G,G,G 321. H,H,H 322. I,I,I 323. J,J,J 324. K,K,K 325. L,L,L 326. M,M,M 327. N,N,N 328. O,O,O 329. P,P,P 330. Q,Q,Q 331. R,R,R 332. S,S,S 333. T,T,T 334. U,U,U 335. V,V,V 336. W,W,W 337. X,X,X 338. Y,Y,Y 339. Z,Z,Z 340. A,A,A 341. B,B,B 342. C,C,C 343. D,D,D 344. E,E,E 345. F,F,F 346. G,G,G 347. H,H,H 348. I,I,I 349. J,J,J 350. K,K,K 351. L,L,L 352. M,M,M 353. N,N,N 354. O,O,O 355. P,P,P 356. Q,Q,Q 357. R,R,R 358. S,S,S 359. T,T,T 360. U,U,U 361. V,V,V 362. W,W,W 363. X,X,X 364. Y,Y,Y 365. Z,Z,Z 366. A,A,A 367. B,B,B 368. C,C,C 369. D,D,D 370. E,E,E 371. F,F,F 372. G,G,G 373. H,H,H 374. I,I,I 375. J,J,J 376. K,K,K 377. L,L,L 378. M,M,M 379. N,N,N 380. O,O,O 381. P,P,P 382. Q,Q,Q 383. R,R,R 384. S,S,S 385. T,T,T 386. U,U,U 387. V,V,V 388. W,W,W 389. X,X,X 390. Y,Y,Y 391. Z,Z,Z 392. A,A,A 393. B,B,B 394. C,C,C 395. D,D,D 396. E,E,E 397. F,F,F 398. G,G,G 399. H,H,H 400. I,I,I 401. J,J,J 402. K,K,K 403. L,L,L 404. M,M,M 405. N,N,N 406. O,O,O 407. P,P,P 408. Q,Q,Q 409. R,R,R 410. S,S,S 411. T,T,T 412. U,U,U 413. V,V,V 414. W,W,W 415. X,X,X 416. Y,Y,Y 417. Z,Z,Z 418. A,A,A 419. B,B,B 420. C,C,C 421. D,D,D 422. E,E,E 423. F,F,F 424. G,G,G 425. H,H,H 426. I,I,I 427. J,J,J 428. K,K,K 429. L,L,L 430. M,M,M 431. N,N,N 432. O,O,O 433. P,P,P 434. Q,Q,Q 435. R,R,R 436. S,S,S 437. T,T,T 438. U,U,U 439. V,V,V 440. W,W,W 441. X,X,X 442. Y,Y,Y 443. Z,Z,Z 444. A,A,A 445. B,B,B 446. C,C,C 447. D,D,D 448. E,E,E 449. F,F,F 450. G,G,G 451. H,H,H 452. I,I,I 453. J,J,J 454. K,K,K 455. L,L,L 456. M,M,M 457. N,N,N 458. O,O,O 459. P,P,P 460. Q,Q,Q 461. R,R,R 462. S,S,S 463. T,T,T 464. U,U,U 465. V,V,V 466. W,W,W 467. X,X,X 468. Y,Y,Y 469. Z,Z,Z 470. A,A,A 471. B,B,B 472. C,C,C 473. D,D,D 474. E,E,E 475. F,F,F 476. G,G,G 477. H,H,H 478. I,I,I 479. J,J,J 480. K,K,K 481. L,L,L 482. M,M,M 483. N,N,N 484. O,O,O 485. P,P,P 486. Q,Q,Q 487. R,R,R 488. S,S,S 489. T,T,T 490. U,U,U 491. V,V,V 492. W,W,W 493. X,X,X 494. Y,Y,Y 495. Z,Z,Z 496. A,A,A 497. B,B,B 498. C,C,C 499. D,D,D 500. E,E,E 501. F,F,F 502. G,G,G 503. H,H,H 504. I,I,I 505. J,J,J 506. K,K,K 507. L,L,L 508. M,M,M 509. N,N,N 510. O,O,O 511. P,P,P 512. Q,Q,Q 513. R,R,R 514. S,S,S 515. T,T,T 516. U,U,U 517. V,V,V 518. W,W,W 519. X,X,X 520. Y,Y,Y 521. Z,Z,Z 522. A,A,A 523. B,B,B 524. C,C,C 525. D,D,D 526. E,E,E 527. F,F,F 528. G,G,G 529. H,H,H 530. I,I,I 531. J,J,J 532. K,K,K 533. L,L,L 534. M,M,M 535. N,N,N 536. O,O,O 537. P,P,P 538. Q,Q,Q 539. R,R,R 540. S,S,S 541. T,T,T 542. U,U,U 543. V,V,V 544. W,W,W 545. X,X,X 546. Y,Y,Y 547. Z,Z,Z 548. A,A,A 549. B,B,B 550. C,C,C 551. D,D,D 552. E,E,E 553. F,F,F 554. G,G,G 555. H,H,H 556. I,I,I 557. J,J,J 558. K,K,K 559. L,L,L 560. M,M,M 561. N,N,N 562. O,O,O 563. P,P,P 564. Q,Q,Q 565. R,R,R 566. S,S,S 567. T,T,T 568. U,U,U 569. V,V,V 570. W,W,W 571. X,X,X 572. Y,Y,Y 573. Z,Z,Z 574. A,A,A 575. B,B,B 576. C,C,C 577. D,D,D 578. E,E,E 579. F,F,F 580. G,G,G 581. H,H,H 582. I,I,I 583. J,J,J 584. K,K,K 585. L,L,L 586. M,M,M 587. N,N,N 588. O,O,O 589. P,P,P 590. Q,Q,Q 591. R,R,R 592. S,S,S 593. T,T,T 594. U,U,U 595. V,V,V 596. W,W,W 597. X,X,X 598. Y,Y,Y 599. Z,Z,Z 600. A,A,A 601. B,B,B 602. C,C,C 603. D,D,D 604. E,E,E 605. F,F,F 606. G,G,G 607. H,H,H 608. I,I,I 609. J,J,J 610. K,K,K 611. L,L,L 612. M,M,M 613. N,N,N 614. O,O,O 615. P,P,P 616. Q,Q,Q 617. R,R,R 618. S,S,S 619. T,T,T 620. U,U,U 621. V,V,V 622. W,W,W 623. X,X,X 624. Y,Y,Y 625. Z,Z,Z 626. A,A,A 627. B,B,B 628. C,C,C 629. D,D,D 630. E,E,E 631. F,F,F 632. G,G,G 633. H,H,H 634. I,I,I 635. J,J,J 636. K,K,K 637. L,L,L 638. M,M,M 639. N,N,N 640. O,O,O 641. P,P,P 642. Q,Q,Q 643. R,R,R 644. S,S,S 645. T,T,T 646. U,U,U 647. V,V,V 648. W,W,W 649. X,X,X 650. Y,Y,Y 651. Z,Z,Z 652. A,A,A 653. B,B,B 654. C,C,C 655. D,D,D 656. E,E,E 657. F,F,F 658. G,G,G 659. H,H,H 660. I,I,I 661. J,J,J 662. K,K,K 663. L,L,L 664. M,M,M 665. N,N,N 666. O,O,O 667. P,P,P 668. Q,Q,Q 669. R,R,R 670. S,S,S 671. T,T,T 672. U,U,U 673. V,V,V 674. W,W,W 675. X,X,X 676. Y,Y,Y 677. Z,Z,Z 678. A,A,A 679. B,B,B 680. C,C,C 681. D,D,D 682. E,E,E 683. F,F,F 684. G,G,G 685. H,H,H 686. I,I,I 687. J,J,J 688. K,K,K 689. L,L,L 690. M,M,M 691. N,N,N 692. O,O,O 693. P,P,P 694. Q,Q,Q 695. R,R,R 696. S,S,S 697. T,T,T 698. U,U,U 699. V,V,V 700. W,W,W 701. X,X,X 702. Y,Y,Y 703. Z,Z,Z 704. A,A,A 705. B,B,B 706. C,C,C 707. D,D,D 708. E,E,E 709. F,F,F 710. G,G,G 711. H,H,H 712. I,I,I 713. J,J,J 714. K,K,K 715. L,L,L 716. M,M,M 717. N,N,N 718. O,O,O 719. P,P,P 720. Q,Q,Q 721. R,R,R 722. S,S,S 723. T,T,T 724. U,U,U 725. V,V,V 726. W,W,W 727. X,X,X 728. Y,Y,Y 729. Z,Z,Z 730. A,A,A 731. B,B,B 732. C,C,C 733. D,D,D 734. E,E,E 735. F,F,F 736. G,G,G 737. H,H,H 738. I,I,I 739. J,J,J 740. K,K,K 741. L,L,L 742. M,M,M 743. N,N,N 744. O,O,O 745. P,P,P 746. Q,Q,Q 747. R,R,R 748. S,S,S 749. T,T,T 750. U,U,U 751. V,V,V 752. W,W,W 753. X,X,X 754. Y,Y,Y 755. Z,Z,Z 756. A,A,A 757. B,B,B 758. C,C,C 759. D,D,D 760. E,E,E 761. F,F,F 762. G,G,G 763. H,H,H 764. I,I,I 765. J,J,J 766. K,K,K 767. L,L,L 768. M,M,M 769. N,N,N 770. O,O,O 771. P,P,P 772. Q,Q,Q 773. R,R,R 774. S,S,S 775. T,T,T 776. U,U,U 777. V,V,V 778. W,W,W 779. X,X,X 780. Y,Y,Y 781. Z,Z,Z 782. A,A,A 783. B,B,B 784. C,C,C 785. D,D,D 786. E,E,E 787. F,F,F 788. G,G,G 789. H,H,H 790. I,I,I 791. J,J,J 792. K,K,K 793. L,L,L 794. M,M,M 795. N,N,N 796. O,O,O 797. P,P,P 798. Q,Q,Q 799. R,R,R 800. S,S,S 801. T,T,T 802. U,U,U 803. V,V,V 804. W,W,W 805. X,X,X 806. Y,Y,Y 807. Z,Z,Z 808. A,A,A 809. B,B,B 810. C,C,C 811. D,D,D 812. E,E,E 813. F,F,F 814. G,G,G 815. H,H,H 816. I,I,I 817. J,J,J 818. K,K,K 819. L,L,L 820. M,M,M 821. N,N,N 822. O,O,O 823. P,P,P 824. Q,Q,Q 825. R,R,R 826. S,S,S 827. T,T,T 828. U,U,U 829. V,V,V 830. W,W,W 831. X,X,X 832. Y,Y,Y 833. Z,Z,Z 834. A,A,A 835. B,B,B 836. C,C,C 837. D,D,D 838. E,E,E 839. F,F,F 840. G,G,G 841. H,H,H 842. I,I,I 843. J,J,J 844. K,K,K 845. L,L,L 846. M,M,M 847. N,N,N 848. O,O,O 849. P,P,P 850. Q,Q,Q 851. R,R,R 852. S,S,S 853. T,T,T 854. U,U,U 855. V,V,V 856. W,W,W 857. X,X,X 858. Y,Y,Y 859. Z,Z,Z 860. A,A,A 861. B,B,B 862. C,C,C 863. D,D,D 864. E,E,E 865. F,F,F 866. G,G,G 867. H,H,H 868. I,I,I 869. J,J,J 870. K,K,K 871. L,L,L 872. M,M,M 873. N,N,N 874. O,O,O 875. P,P,P 876. Q,Q,Q 877. R,R,R 878. S,S,S 879. T,T,T 880. U,U,U 881. V,V,V 882. W,W,W 883. X,X,X 884. Y,Y,Y 885. Z,Z,Z 886. A,A,A 887. B,B,B 888. C,C,C 889. D,D,D 890. E,E,E 891. F,F,F 892. G,G,G 893. H,H,H 894. I,I,I 895. J,J,J 896. K,K,K 897. L,L,L 898. M,M,M 899. N,N,N 900. O,O,O 901. P,P,P 902. Q,Q,Q 903. R,R,R 904. S,S,S 905. T,T,T 906. U,U,U 907. V,V,V 908. W,W,W 909. X,X,X 910. Y,Y,Y 911. Z,Z,Z 912. A,A,A 913. B,B,B 914. C,C,C 915. D,D,D 916. E,E,E 917. F,F,F 918. G,G,G 919. H,H,H 920. I,I,I 921. J,J,J 922. K,K,K 923. L,L,L 924. M,M,M 925. N,N,N 926. O,O,O 927. P,P,P 928. Q,Q,Q 929. R,R,R 930. S,S,S 931. T,T,T 932. U,U,U 933. V,V,V 934. W,W,W 935. X,X,X 936. Y,Y,Y 937. Z,Z,Z 938. A,A,A 939. B,B,B 940. C,C,C 941. D,D,D 942. E,E,E 943. F,F,F 944. G,G,G 945. H,H,H 946. I,I,I 947. J,J,J 948. K,K,K 949. L,L,L 950. M,M,M 951. N,N,N 952. O,O,O 953. P,P,P 954. Q,Q,Q 955. R,R,R 956. S,S,S 957. T,T,T 958. U,U,U 959. V,V,V 960. W,W,W 961. X,X,X 962. Y,Y,Y 963. Z,Z,Z 964. A,A,A 965. B,B,B 966. C,C,C 967. D,D,D 968. E,E,E 969. F,F,F 970. G,G,G 971. H,H,H 972. I,I,I 973. J,J,J 974. K,K,K 975. L,L,L 976. M,M,M 977. N,N,N 978. O,O,O 979. P,P,P 980. Q,Q,Q 981. R,R,R 982. S,S,S 983. T,T,T 984. U,U,U 985. V,V,V 986. W,W,W 987. X,X,X 988. Y,Y,Y 989. Z,Z,Z 990. A,A,A 991. B,B,B 992. C,C,C 993. D,D,D 994. E,E,E 995. F,F,F 996. G,G,G 997. H,H,H 998. I,I,I 999. J,J,J 1000. K,K,K 1001. L,L,L 1002. M,M,M 1003. N,N,N 1004. O,O,O 1005. P,P,P 1006. Q,Q,Q 1007. R,R,R 1008. S,S,S 1009. T,T,T 1010. U,U,U 1011. V,V,V 1012. W,W,W 1013. X,X,X 1014. Y,Y,Y 1015. Z,Z,Z 1016. A,A,A 1017. B,B,B 1018. C,C,C 1019. D,D,D 1020. E,E,E 1021. F,F,F 1022. G,G,G 1023. H,H,H 1024. I,I,I 1025. J,J,J 1026. K,K,K 1027. L,L,L 1028. M,M,M 1029. N,N,N 1030. O,O,O 1031. P,P,P 1032. Q,Q,Q 1033. R,R,R 1034. S,S,S 1035. T,T,T 1036. U,U,U 1037. V,V,V 1038. W,W,W 1039. X,X,X 1040. Y,Y,Y 1041. Z,Z,Z 1042. A,A,A 1043. B,B,B 1044. C,C,C 1045. D,D,D 1046. E,E,E 1047. F,F,F 1048. G,G,G 1049. H,H,H 1050. I,I,I 1051. J,J,J 1052. K,K,K 1053. L,L,L 1054. M,M,M 1055. N,N,N 1056. O,O,O 1057. P,P,P 1058. Q,Q,Q 1059. R,R,R 1060. S,S,S 1061. T,T,T 1062. U,U,U 1063. V,V,V 1064. W,W,W 1065. X,X,X 1066. Y,Y,Y 1067. Z,Z,Z 1068. A,A,A 1069. B,B,B 1070. C,C,C 1071. D,D,D 1072. E,E,E 1073. F,F,F 1074. G,G,G 1075. H,H,H 1076. I,I,I 1077. J,J,J 1078. K,K,K 1079. L,L,L 1080. M,M,M 1081. N,N,N 1082. O,O,O 1083. P,P,P 1084. Q,Q,Q 1085. R,R,R 1086. S,S,S 1087. T,T,T 1088. U,U,U 1089. V,V,V 1090. W,W,W 1091. X,X,X 1092. Y,Y,Y 1093. Z,Z,Z 1094. A,A,A 1095. B,B,B 1096. C,C,C 1097. D,D,D 1098. E,E,E 1099. F,F,F 1100. G,G,G 1101. H,H,H 1102. I,I,I 1103. J,J,J 1104. K,K,K 1105. L,L,L 1106. M,M,M 1107. N,N,N 1108. O,O,O 1109. P,P,P 1110. Q,Q,Q 1111. R,R,R 1112. S,S,S 1113. T,T,T 1114. U,U,U 1115. V,V,V 1116. W,W,W 1117. X,X,X 1118. Y,Y,Y 1119. Z,Z,Z 1120. A,A,A 1121. B,B,B 1122. C,C,C 1123. D,D,D 1124. E,E,E 1125. F,F,F 1126. G,G,G 1127. H,H,H 1128. I,I,I 1129. J,J,J 1130. K,K,K 1131. L,L,L 1132. M,M,M 1133. N,N,N 1134. O,O,O 1135. P,P,P 1136. Q,Q,Q 1137. R,R,R 1138. S,S,S 1139. T,T,T 1140. U,U,U 1141. V,V,V 1142. W,W,W 1143. X,X,X 1144. Y,Y,Y 1145. Z,Z,Z 1146. A,A,A 1147. B,B,B 1148. C,C,C 1149. D,D,D 1150. E,E,E 1151. F,F,F 1152. G,G,G 1153. H,H,H 1154. I,I,I 1155. J,J,J 1156. K,K,K 1157. L,L,L 1158. M,M,M 1159. N,N,N 1160. O,O,O 1161. P,P,P 1162. Q,Q,Q 1163. R,R,R 1164. S,S,S 1165. T,T,T 1166. U,U,U 1167. V,V,V 1168. W,W,W 1169. X,X,X 1170. Y,Y,Y 1171. Z,Z,Z 1172. A,A,A 1173. B,B,B 1174. C,C,C 1175. D,D,D 1176. E,E,E 1177. F,F,F 1178. G,G,G 1179. H,H,H 1180. I,I,I 1181. J,J,J 1182. K,K,K 1183. L,L,L 1184. M,M,M 1185. N,N,N 1186. O,O,O 1187. P,P,P 1188. Q,Q,Q 1189. R,R,R 1190. S,S,S 1191. T,T,T 	

S.NO.	Questions	Choices	Answers
231	<pre>#include <stdio.h> int main() { char str[]="value is=%d"; int a=7; str[11]='c'; printf(str,a); return 0; }</pre> <p>Find the output</p>	1. value is =%d 2. value is =%c 3. value is =55 4. value is =7	4.0
232	<pre>#include <stdio.h> int main() { char X[10]={'A'},i; for(i=0; i<10; i++) printf("%d ",X[i]); return 0; }</pre> <p>Find the output</p>	1. A 0 0 0 0 0 0 0 0 2. A 3. A 32 32 32 32 32 32 32 32 4. Error	4.0
233	<pre>#include <stdio.h> int main() { char *str="IncludeHelp"; printf("%c\n",*&str); return 0; }</pre> <p>Find the output</p>	1. Error 2. IncludeHelp 3. I 4. *I	3.0
234	<pre>#include <stdio.h> int main(){ float a=125.50; int b=125.50; char c='A'; printf("%d,%d,%d\n",sizeof(a),sizeof(b),sizeof(125.50)); printf("%d,%d\n",sizeof(c),sizeof(65)); return 0; }</pre> <p>What will be the output on a 32 bit compiler.</p>	1. 4, 4, 4 2. 1, 4 3. 4, 4, 8 4. 1, 1 5. 3. 6. 4, 4, 4 7. 1, 1 8. 4. 9. 4, 4, 8 10. 1, 4	4.0
235	<pre>#include <stdio.h> int main() { if((-100 && 100) (20 && -20)) printf("%s","Condition is true."); else printf("%s","Condition is false."); return 0; }</pre> <p>Find the output</p>	1. Condition is True 2. Condition is False 3. No output 4. Error	1.0

S.NO.	Questions	Choices	Answers
236	<pre>#include <stdio.h> int main() { int a=10; if(10L == a) printf("10L"); else if(10==a) printf("10"); else printf("0"); return 0; } Find the output.</pre>	1. 10 2. 10L 3. 10L10 4. Error	2.0
237	<pre>#include <stdio.h> int main() { int a=10; if(a==10) { printf("Hello..."); break; printf("Ok"); } else { printf("Hii"); } return 0; } Find the output.</pre>	1. Hello... 2. Hello...OK 3. OK... 4. Error	4.0
238	<pre>#include <stdio.h> int main() { int a=15; float b=1.234; printf("%.*f",a,b); return 0; } Predict the output?</pre>	1. 1.234 2. 1.234000 3. 1.234000 4. Error	3.0
239	<pre>#include <stdio.h> int main() { int i; for(i=0; i< 5; i++) { if(i*i > 30) goto lbl; else printf("%d",i); lbl: printf("IHelp "); } return 0; } Find the output</pre>	1. 0IHelp 1IHelp 2IHelp 3IHelp 4IHelp 2. 0IHelp 1IHelp 2IHelp 4IHelp 3. 1IHelp 4. Error	1.0
240	<pre>#include <stdio.h> int main() { int MAX=10; int array[MAX]; printf("size of array is = %d",sizeof(array)); return 0; } Find the output</pre>	1. size of array is = 20 2. size of array is = 40 3. size of array is = 4 4. Error	2.0

S.NO.	Questions	Choices	Answers
241	<pre>#include <stdio.h> int main() { int pn=100; if(pn>20) if(pn<20) printf("Heyyyyy"); else printf("Hiiiii"); return 0; }</pre> <p>Find the output.</p>	1. No output 2. Hiiiii 3. Heyyyyy 4. HeyyyyyHiiiii	2.0
242	<pre>#include <stdio.h> int main() { int var=100; { int var=200; printf("%d",var); } printf("%d",var); return 0; }</pre> <p>Find the output</p>	1. ERROR 2. 200...200 3. 100...100 4. 200...100	4.0
243	<pre>#include <stdio.h> int main() { int var=250; printf("value of var = %d\n",var); 200+50; "includehelp.com"; printf("%s\n","includehelp"); return 0; }</pre> <p>Find the output</p>	1. value of var = 250 2. includehelp.com 3. value of var = 250 4. includehelp 5. Error 6. value of var = 250 7. Garbage	2.0
244	<pre>#include <stdio.h> int main() { int iVal; char cVal; void *ptr; // void pointer iVal=50; cVal=65; ptr=&iVal; printf("value=%d,size= %d\n",*(int*)ptr,sizeof(ptr)); ptr=&cVal; printf("value=%d,size= %d\n",*(char*)ptr,sizeof(ptr)); return 0; }</pre> <p>Find the output</p>	1. Error 2. value=50,size= 4 3. value=65,size= 4 4. value=50,size= 4 5. value=65,size= 1 6. Garbage value	2.0
245	<pre>#include <stdio.h> int main() { static int var[5]; int count=0; var[++count]=++count; for(count=0;count<5;count++) printf("%d ",var[count]); return 0; }</pre> <p>Find the output</p>	1. 0 1 0 0 0 2. 0 2 0 0 0 3. 0 0 2 0 0 4. 0 0 0 0 0	3.0

S.NO.	Questions	Choices	Answers
246	<pre>#include <stdio.h> int main() { struct sample { int a; int b; sample *s; }t; printf("%d,%d",sizeof(sample),sizeof(t.s)); return 0; }</pre> <p>Find the output</p>	1. 12, 12 2. 12, 0 3. Error 4. 12, 4	4.0
247	<pre>#include <stdio.h> int main() { struct std { char name[30]; int age; }; struct std s1={"Mike",26}; struct std s2=s1; printf("Name: %s, Age: %d\n",s2.name,s2.age); }</pre> <p>Find the output</p>	1. Name: Mike, Age: 26 2. Name: Garbage, Age: Garbage 3. Name: Null, Age: 26 4. Error	1.0
248	<pre>#include <stdio.h> int main() { typedef struct tag{ char str[10]; int a; }har; har h1,h2={"IHelp",10}; h1=h2; h1.str[1]='h'; printf("%s,%d",h1.str,h1.a); return 0; }</pre> <p>Find the output</p>	1. ERROR 2. IHelp, 10 3. IHelp, 0 4. Ihelp, 10	4.0
249	<pre>#include <stdio.h> int main() { union test { int i; int j; }; union test var=10; printf("%d,%d\n",var.i,var.j); }</pre> <p>Find the output</p>	1. 10,10 2. 10,0 3. 0,10 4. Error	4.0
250	<pre>#include <stdio.h> int main() { union values { int intval; char chrval[2]; }; union values val; val.chrval[0]='A'; val.chrval[1]='B'; printf("\n%c,%c,%d",val.chrval[0],val.chrval[1],val.intval); return 0; }</pre> <p>Find the output</p>	1. A,B,0 2. A,B,16961 3. B,B,66 4. A,A,65	2.0

S.NO.	Questions	Choices	Answers
251	<pre>#include <stdio.h> int main() { union values { unsigned char a; unsigned char b; unsigned int c; }; union values val; val.a=1; val.b=2; val.c=300; printf("%d,%d,%d",val.a,val.b,val.c); return 0; }</pre> <p>Find the output</p>	1. 44,44,300 2. 1,2,300 3. 2,2,300 4. 256,256,300	1.0
252	<pre>#include <stdio.h> int main() { void *ptr; ++ptr; printf("%u",ptr); return 0; }</pre> <p>Find the output</p>	1. 2004 2. 2001 3. 2000 4. ERROR	2.0
253	<pre>#include <stdio.h> struct employee{ int empId; char *name; int age; }; int main() { struct employee emp []={ {1,"Mike",24}, {2,"AAA",24}, {3,"BBB",25}, {4,"CCC",30} }; printf("Id : %d, Age : %d, Name : %s", emp[2].empId,3[emp].age,*(emp+1)).name); return 0; }</pre> <p>Find the output</p>	1. Id: 3, Age: 24, Name: Mike 2. Id: 3, Age: 23, Name: Mike 3. Id: 3, Age: 30, Name: AAA 4. Error	3.0
254	<pre>#include <stdio.h> void main() { int a=2; switch(a) { printf("Message\n"); default: printf("Default\n"); case 2: printf("Case-2\n"); case 3: printf("Case-3\n"); } printf("Exit from switch\n"); }</pre> <p>Find the output</p>	1. Case-2 2. Message 3. Message 4. Case-2 Case-3 Exit from switch	4.0

S.NO.	Questions	Choices	Answers
255	<pre>#include <stdio.h> void main(){ static int staticVar; int j; for(j=0;j<=5;j+=2) switch(j){ case 1: staticVar++; break; case 2: staticVar+=2; case 4: staticVar%=2; j-=1; continue; default: --staticVar; continue; } printf("%d",staticVar); }</pre> <p>Find the output</p>	1. 0 2. 1 3. 2 4. Error	1.0
256	<pre>#include <stdio.h> void main(){ int a=0; a=5 2 1; printf("%d",a); }</pre> <p>Find the output.</p>	1. 2. 2. 1 3. 0 4. 8	2.0
257	<pre>#include <stdio.h> void main(){ int a=1; switch(a/2) { case NULL: printf("Case NULL\n"); break; case 0: printf("Case ZERO\n"); break; default: printf("DEFAULT\n"); break; } }</pre> <p>Find the output</p>	1. Case NULL 2. Case ZERO 3. Case DEFAULT 4. Error	4.0
258	<pre>#include <stdio.h> void main() { int a=2; int b=a; switch(b) { case a: printf("Case-a\n"); break; case 3: printf("Case-3\n"); break; default: printf("No option\n"); break; } printf("Exit from switch"); }</pre> <p>Find the output</p>	1. Case-2 2. Error: case expression not constant 3. Message Case-2 4. Case-2 Case-3 Exit from switch	2.0

S.NO.	Questions	Choices	Answers
259	<pre>#include <stdio.h> void main() { int cnt=1; while(cnt<=10) { printf("%d",cnt); cnt+=1; } printf("\nAfter loop cnt=%d",cnt); printf("\n"); }</pre> <p>Find the output</p>	<p>1. After loop cnt= 1 2. 1, 3. After loop cnt= 2 4. After loop cnt= 2 11</p>	1.0
260	<pre>#include <stdio.h> void main() { int i,j,charVal='A'; for(i=5;i>=1;i--) { for(j=0;j< i;j++) printf("%c ",(charVal+j)); printf("\n"); } }</pre> <p>Identify the output</p>	<p>1. A B C D E A B C D E A B C D E A B C D E A B C D E 2. A B C D A B C D A B C D A B C D 3. A B C D A B C A B A 4. A B C D E A B C D A B C A B A</p>	3.0
261	<pre>#include <stdio.h> void main() { int i=1; while (i<=5) { printf("%d",i); if (i==5) goto print; i++; } } fun() { print: printf("includehelp.com"); }</pre> <p>Find the output</p>	<p>1. Error 2. 12345includehelp.com 3. 1234includehelp.com 4. 1includehelp.com 2includehelp.com 3includehelp.com 4includehelp.com 5includehelp.com</p>	1.0
262	<pre>#include <stdio.h> void main(){ int intVar=20,x; x= ++intVar,intVar++,++intVar; printf("Value of intVar=%d, x=%d",intVar,x); }</pre> <p>Find the output</p>	<p>1. Value of intVar=23, x=21 2. Value of intVar=23, x=23 3. Value of intVar=21, x=21 4.ERROR</p>	1.0

S.NO.	Questions	Choices	Answers
263	<pre>#include <stdio.h> void main() { int tally; for(tally=0;tally<10;++tally) { printf("#"); if(tally>6) continue; printf("%d",tally); } } Find the output</pre>	<p>1. #0#1#2#3#4#5#6###</p> <p>2. #0#1#2#3#4#5#6#7#8#9#10</p> <p>3. #0#1#2#3#4#5##7#8#9#10</p> <p>4. #0#1#2#3#4#5#</p>	1.0
264	<pre>#include <stdio.h> void main() { unsigned char c=290; printf("%d",c); } Find the output</pre>	<p>1. 34</p> <p>2. 290</p> <p>3. Garbage value</p> <p>4. Error</p>	1.0
265	<pre>#include <stdio.h> void main() { char cnt=0; for(;cnt++ ;printf("%d",cnt)); printf("%d",cnt); } Find the output</pre>	<p>1. 0 1 2 ... infinity</p> <p>2. 1 2 2 ... 127</p> <p>3. 0</p> <p>4. 1</p>	4.0
266	<pre>#include <stdio.h> #include <string.h> int main() { char str[]; strcpy(str,"Hello"); printf("%s",str); return 0; } Find the output</pre>	<p>1. Hello</p> <p>2. Error</p> <p>3. NULL</p> <p>4. NO OUTPUT</p>	2.0
267	<pre>#include #define SUM(x,y) int s; s=x+y; printf("sum=%d\n",s); int main() { SUM(10,20); return 0; } Find the output</pre>	<p>1. sum=30</p> <p>2. 10,20</p> <p>3. Error</p> <p>4. sum=0</p>	1.0
268	<pre>#include int main() { char ch=10; void *ptr=&ch; printf("%d,%d",*(char*)ptr,++(*char*)ptr); return 0; } Find the output</pre>	<p>1. 11, 11</p> <p>2. 10, 11</p> <p>3. Error</p> <p>4. 10, 10</p>	1.0

S.NO.	Questions	Choices	Answers
269	<pre>#include int main() { char *str []={"AAAAA","BBBBB","CCCCC","DDDDD"}; char **sptr []={str+3,str+2,str+1,str}; char ***pp; pp=sptr; ++pp; printf("%s",**++pp+2); return 0; } Find the output</pre>	1. BBBBB 2. CCCCC 3. BBB 4. Error	3.0
270	<pre>#include int main() { int a=10,b=2; int *pa=&a,*pb=&b; printf("value = %d", *pa/*pb); return 0; } Find the output</pre>	1. 2. 3. 5.0 4. ERROR 5.	1.0
271	<pre>#include void fun(int *ptr) { *ptr=100; } int main() { int num=50; int *pp=# fun(& *pp); printf("%d,%d",num,*pp); return 0; } Find the output</pre>	1. 100,100 2. 50,50 3. 50,100 4. Error in function calling	3.0
272	<pre>#include #define FUN(x) x*x int main() { int val=0; val=128/FUN(8); printf("val=%d",val); return 0; } Find the output</pre>	1. 2. 3. 12864 4. 40 5. 1	2.0
273	<pre>#include int main () { static int a[]={10, 20, 30 40, 50}; static int *p[]={ a, a+3, a+4, a+1, a+2}; int **ptr=p; ptr++; printf ("%d%d", ptr p, **ptr); } The output of the program is _____</pre>	1. 2. 43 3. 140 4. 89 5. 78	2.0
274	<pre>#include <stdio.h> #define TRUE 1 int main() { switch(TRUE) { printf("Hello"); } } Find the output</pre>	1. Hello 2. ERROR 3. No output 4. Garbage	3.0

S.NO.	Questions	Choices	Answers
275	<pre>#include <stdio.h> enum numbers { zero, one, two, three , four=3,five,six,seven=0,eight }; void main() { printf("%d,%d,%d,%d,%d,%d,%d,%d",zero,one,two,three,four,five,six,seven,eight); } What will be the output.</pre>	1. 0, 1, 2, 3, 3, 4, 5, 0, 1 2. 0, 1, 2,3,3,1,2,3,4 3. 0,1,2,3,3,1,2,3,4 4. 0, 1, 2, 3, 3, 4, 5, 0, 9	1.0
276	<pre>#include <stdio.h> int main() { char val=250; int ans; ans= val+ !val + ~val + ++val; printf("%d",ans); return 0; } Find the output.</pre>	1. -5 2. -6 3. 0 4. 6	2.0
277	<pre>#include <stdio.h> int main() { float a,b; a=3.0f; b=4.0f; printf("%.0f,% .1f,% .2f",a/b,a/b,a/b); return 0; } Find the output.</pre>	1. 1, 0.8, 0.75 2. 0, 0.7, 0.75 3. 0, 0.8, 0.75 4. Error: Invalid format Specifier	3.0
278	<pre>#include <stdio.h> int main() { float a; (int)a= 10; printf("value of a=%d",a); return 0; } Find the output</pre>	1. value of a=10 2. value of a=10.000000 3. value of a=0 4. L-Value required	4.0
279	<pre>#include <stdio.h> int main() { int i=-1,j=-1,k=0,l=2,m; m=i++&&j++&&k++ l++; printf("%d %d %d %d %d",i,j,k,l,m); return 0; } Find the output</pre>	1. 0 0 1 2 1 2. 0 0 1 3 2 3. 0 0 1 3 1 4. 0 1 1 3 1	3.0
280	<pre>#include <stdio.h> int main() { int intVar=24; static int x=intVar; printf("%d,%d",intVar,x); return 0; } Find the output of this program, (program name is: static_ec.c)</pre>	1. 24, 24 2. 24, 0 3. Error: Illegal Initialization 4. Run time error	3.0

S.NO.	Questions	Choices	Answers
281	<pre>#include <stdio.h> int main() { int ok=-100; -100; printf("%d",ok); return 0; }</pre> <p>Find the output.</p>	1. 0 2. -100 3. 100 4. Error	2.0
282	<pre>#include <stdio.h> int main() { int var; var= -10; printf("value of var= %d\n",var); var+= +10; printf("value of var= %d\n",var); return 0; }</pre> <p>Find the output</p>	1. ERROR 2. value of var= -10 value of var= 10 3. value of var= 10 value of var= 10 4. value of var= 10 value of var= 11	3.0
283	<pre>#include <stdio.h> int main(){ int x; x=100,30,50; printf("x=%d\n",x); x=(100,30,50); printf("x=%d\n",x); return 0; }</pre> <p>Find the output</p>	1. x=100 x=100 2. x=100 x=50 3. x=50 x=50 4. x=50 x=100	2.0
284	<pre>#include <stdio.h> void main() { int a=10; switch(a){ case 5+5: printf("Hello\n"); default: printf("OK\n"); } }</pre> <p>Find the output</p>	1. Hello 2. OK 3. Hello OK 4. Error	3.0
285	<pre>#include <stdio.h> void main() { unsigned short var='B'; var+=2; var++; printf("var : %c , %d ", var,var); }</pre> <p>Find the output</p>	1. var : E, 69 2. var : E, 68 3. var : D, 69 4. var : D, 68	1.0

S.NO.	Questions	Choices	Answers
286	<pre>#include <stdio.h> void main() { int a=2; switch(a/2*1.5) { case 1: printf("One..."); break; case 2: printf("Two..."); break; default: printf("Other..."); break; } }</pre> <p>Find the output</p>	1. One... 2. Two... 3. Other... 4. Error	4.0
287	<pre>#include <stdio.h> void main() { short a=2; switch(a) { case 1L: printf("One\n"); break; case 2L: printf("Two\n"); break; default: printf("Else\n"); break; } }</pre> <p>Find the output</p>	1. One 2. Two 3. Else 4. Error	2.0
288	<pre>#include <stdio.h> void main() { short day=2; switch(day) { case 2: case 22: printf("%d nd",day); break; default: printf("%d th",day); break; } }</pre> <p>Find the output</p>	1. 2 nd 2. 22 nd 3. Error 4. 2 nd 22 nd	3.0
289	<pre>#include <stdio.h> int main(){ int a,b,c; a=0x10; b=010; c=a+b; printf("\nAddition is= %d",c); return 0; }</pre> <p>Find the output.</p>	1. Addition is = 20 2. Addition is = 24 3. Addition is = Garbage 4. Error	2.0
290	<pre>#include <stdio.h> void main() { int x; x=(printf("AA") printf("BB")); printf("%d",x); printf("\n"); x=(printf("AA")&&printf("BB")); printf("%d",x); }</pre> <p>Find the output</p>	1. AABB1 AABB1 2. 1 1 3. AABB1 AA1 4. AA1 AABB1	4.0

S.NO.	Questions	Choices	Answers
291	\$a = array(null => 'a', true => 'b', false => 'c', 0 => 'd', 1 => 'e', " => 'f'); echo count(\$a), "\n"; What will be printed?	1.2 3.4 4.5	2.0
292	\$a = array(); if (\$a[1]) null; echo count(\$a), "\n"; What will be printed?	1.0 2.1 3.2 4.Code wont work	1.0
293	What is the most common approach for the development of application system now?	1. Incremental development 2. Agile 3. Waterfall 4. None of the options	1.0
294 data type can store unstructured data	1. RAW 2. CHAR 3. NUMERIC 4. VARCHAR	1.0
295	A wireless network interface controller can work in	1. infrastructure mode 2. ad-hoc mode 3. both infrastructure and ad-hoc mode 4. none	3.0
296	Consider the code snippet given below <pre>var count = [1,,3];</pre> What is the observation made?	1. The omitted value takes “undefined” 2. This results in an error 3. This results in an exception 4. Can't predict	1.0
297	Consider the following javascript statements <pre>x = ~-y; w = x = y = z; q = a?b:c?d:e?f:g;</pre> The above code snippet is equivalent to:	1. <pre>x = ~(-y); w = (x = (y = z)); q = a?b:(c?d:(e?f:g));</pre> 2. <pre>x = a?b:(c?d:(e?f:g)); q = ~(-y); w = (x = (y = z));</pre> 3. <pre>x = (x = (y = z));w = ~(-y); q = a?b:(c?d:(e?f:g));</pre> 4. <pre>x = ~(-y); w = (x = (y = z)); q = (c?d:(e?f:g));</pre>	4.0

S.NO.	Questions	Choices	Answers
298	<p>Consider the following statements</p> <pre>var text = "testing: 1, 2, 3"; // Sample text var pattern = /\d+/g // Matches all instances of one or more digits</pre> <p>In order to check if the pattern matches with the string "text", the statement is</p>	1. text==pattern 2. text.equals(pattern) 3. text.test(pattern) 4. pattern.test(text)	4.0
299	----- is the minimal super key	1. Partial Key 2. Candidate Key 3. Surrogate Key 4. Unique Key	2.0
300	----- is a built - in JavaScript function which can be used to execute another function after a given time interval.	1.Timeout() 2.TimeInterval() 3.setTimeout() 4.All of the above	3.0
301 command can be used to modify a column in a table	1. alter 2. update 3. set 4. create	1.0
302 is preferred method for enforcing data integrity	1. Constraints 2. Stored Procedure 3. Triggers 4. Cursors	1.0
303	66.6% risk is considered as	1. very low 2. low 3. moderate 4. high	4.0
304	8086 microprocessor is interfaced to 8253 a programmable interval timer. The maximum number by which the clock frequency on one of the timers is divided by	1.216 2.28 3.210 4.220	1.0

S.NO.	Questions	Choices	Answers
305	Which activity most easily lends itself to incremental design?	1. User Interfaces 2. Web Services 3. Enterprise resource planning 4. Embedded Software	3.0
306	Graphical representation of the project, showing each task and activity as horizontal bar whose length is proportion to time taken for a completion of that activity is called	1.Gantt Chart 2. Structure Chart 3. Pert Chart 4. Time Line	1.0
307	Software deteriorates rather than wears out because	1. Software suffers from exposure to hostile environments 2. Defects are more likely to arise after software has been used often 3. Multiple change requests introduce errors in component interactions 4. Software spare parts become harder to order	3.0
308	The 40-20-40 rule suggests that the least amount of development effort can be spent on	1.Estimation and planning 2. Analysis and design 3. Coding 4. Testing	3.0
309	The prototyping model of software development is	1. A reasonable approach when requirements are well defined 2. A Useful approach when a customer cannot define requirements clearly 3. The best approach to use projects with larger development teams 4. A risky model that rarely produces a meaningful product	2.0
310	In reuse-oriented software engineering the last stage is _____.	1. component analysis 2. requirements modification 3. system validation 4. system design	3.0

S.NO.	Questions	Choices	Answers
311	Which of the following is not a part/product of requirements engineering?	1. Feasibility study 2. Requirements validation 3. System models 4. Architectural design	4.0
312	Software Specification is the process where	1. you decide what software you will use to program 2. you develop a prototype and show it to the client 3. You find out what services are required from the system 4. none	3.0
313	What is an advantage of incremental delivery?	1. everything is coded at once, so the customer receives the full product 2. replacement systems are easily developed with full features that clients expected from the old system 3. Customers can use prototypes and gain experience that informs their requirements for later systems 4. none of the mentioned	3.0
314	This is a software development process model	1. waterfall model 2. Incremental model 3. Boehm's Spiral model 4. all	4.0
315	What is the type of software design that defines interfaces between system components?	1. architectural design 2. Interface Design 3. component Design 4. database design	2.0
316	The size of the data count register of a DMA controller is 16 bits. The processor needs to transfer a file of 29,154 kilobytes from disk to main memory. The memory is byte addressable. The minimum number of times the DMA controller needs to get the control of the system bus from the processor to transfer the file from the disk to main memory is	1. 454 2. 455 3. 456 4. 457	3.0

S.NO.	Questions	Choices	Answers
317	For which of the following flip-flop the output clearly defined for all combinations of two inputs?	1. D type flip-flop 2. R S type flip-flop 3. J K flip-flop 4. T flip-flop	3.0
318	In excitation table of D flipflop next state is equal to	1. Next State 2. Present State 3. Previous State 4. D State	4.0
319	A computer system implements 8 kilobyte pages and a +32-bit physical address space. Each page table entry contains a valid bit, a dirty bit, three permission bits, and the translation. If the maximum size of the page table of a process is 24 megabytes, the length of the virtual address supported by the system is _____ bits.	1. 33 2. 35 3. 34 4. 36	4.0
320	A graphical display of the fundamental products in a truth-table is known as	1. Mapping 2. Graphing 3. T-map 4. Karnaugh-Map	4.0
321	A processor can support a maximum memory of 4 GB, where the memory is word-addressable (a word consists of two bytes). The size of the address bus of the processor is at least _____ bits	1. 30 2. 31 3. 32 4. 33	2.0

S.NO.	Questions	Choices	Answers
322	A Stack-organized Computer uses instruction of	1. Indirect addressing 2. Two-addressing 3. Zero addressing 4. Index addressing	3.0
323	A 4-way set-associative cache memory unit with a capacity of 16 KB is built using a block size of 8 words. The word length is 32 bits. The size of the physical address space is 4 GB. The number of bits for the TAG field is	1. 19 2. 20 3. 21 4. 22	2.0
324	A circuit that converts n inputs to 2^n outputs is called	1. Encoder 2. Decoder 3. Comparator 4. Carry Look Ahead	1.0
325	A Program Counter contains a number 825 and address part of the instruction contains the number 24. The effective address in the relative address mode, when an instruction is read from the memory is	1. 849 2. 850 3. 801 4. 802	2.0
326	Buffering is useful because	1. It makes it seem like there's more memory in the computer 2. It reduces the number of memory copies required 3. It allows all device drivers to use the same code 4. It allows devices and the CPU to operate asynchronously	4.0

S.NO.	Questions	Choices	Answers
327	Consider a 6-stage instruction pipeline, where all stages are perfectly balanced. Assume that there is no cycle-time overhead of pipelining. When an application is executing on this 6-stage pipeline, the speedup achieved with respect to non-pipelined execution if 25% of the instructions incur 2 pipeline stall cycles is	1. 1 2. 2 3. 4. 4.5	3.0
328	Consider a join (relation algebra) between relations r(R) and s(S) using the nested loop method. There are 3 buffers each of size equal to disk block size, out of which one buffer is reserved for intermediate results. Assuming size(r(R))	1. Relation r(R) is in the outer loop. 2. Relation s(S) is in the outer loop. 3. Join selection factor between r(R) and s(S) is more than 0.5 4. Join selection factor between r(R) and s(S) is less than 0.5.	1.0
329	Consider a main memory system that consists of 8 memory modules attached to the system bus, which is one word wide. When a write request is made, the bus is occupied for 100 nanoseconds (ns) by the data, address, and control signals. During the same 100 ns, and for 500 ns thereafter, the addressed memory module executes one cycle accepting and storing the data. The (internal) operation of different memory modules may overlap in time, but only one request can be on the bus at any time. The maximum number of stores (of one word each) that can be initiated in 1 millisecond is	1. 5535 2. 65335 3. 53892 4. 10000	4.0
330	Consider two processors P1 and P2 executing the same instruction set. Assume that under identical conditions, for the same input, a program running on P2 takes 25% less time but incurs 20% more CPI (clock cycles per instruction) as compared to the program running on P1. If the clock frequency of P1 is 1GHz, then the clock frequency of P2 (in GHz) is	1. 1.5 2. 1.6 3. 1.7 4. 1.8	2.0
331	Content of the program counter is added to the address part of the instruction in order to obtain the effective address is called	1. relative address mode. 2. index addressing mode. 3. register mode 4. implied mode	1.0

S.NO.	Questions	Choices	Answers
332	How many address bits are needed to select all memory locations in the $16K \times 1$ RAM?	1. 8 2. 10 3. 14 4. 16	3.0
333	If the associativity of a processor cache is doubled while keeping the capacity and block size unchanged, which one of the following is guaranteed to be NOT affected?	1. Width of tag comparator 2. Width of set index decoder 3. Width of way selection multiplexer 4. Width of processor to main memory data bus	4.0
334	If the main memory is of 8K bytes and the cache memory is of 2K words. It uses associative mapping. Then each word of cache memory shall be_____.	1. 11 bits 2. 21 bits 3. 16 bits 4. 20 bits	3.0
335	If two interrupts, one of higher priority and other of lower priority occur simultaneously, then the service provided is for	1. interrupt of lower priority 2. interrupt of higher priority 3. both the interrupts 4. none of the mentioned	2.0
336	Minterms are arranged in map in a sequence of	1. binary sequence 2. gray code 3. binary variables 4. BCD code	2.0

S.NO.	Questions	Choices	Answers
337	Register renaming is done in pipelined processors	1. As an alternative to register allocation at compile time 2. For efficient access to function parameters and local variables 3. To handle certain kinds of hazards 4. As part of address translation	3.0
338	Simplified form of the boolean expression $(X + Y + XY)(X + Z)$ is	1. $X + Y + Z$ 2. $XY + YZ$ 3. $X + YZ$ 4. $XZ + Y$	3.0
339	The 16-bit 2's complement representation of an integer is 1111 1111 1111 0101, its decimal representation is	1. 1 2. 2 3. 3 4. -11	4.0
340	The addressing mode used in an instruction of the form ADD R1, R2 is ____.	1. Absolute 2. Indirect 3. Index 4. Register	3.0
341	The capacity of a memory unit is defined by the number of words multiplied by the number of bits/word. How many separate address and data lines are needed for a memory of $4\text{ K} \times 16$?	1. 10 address, 16 data lines 2. 11 address, 8 data lines 3. 12 address, 12 data lines 4. 12 address, 16 data lines	4.0

S.NO.	Questions	Choices	Answers
342	The data-in register of I/O port is	<p>1. read by host to get input</p> <p>2. read by controller to get input</p> <p>3. written by host to send output</p> <p>4. written by host to start a command</p>	1.0
343	The Firmware are stored in read-only memory or _____ chips.	<p>1. Flash memory</p> <p>2. Dynamic random access memory</p> <p>3. EEPROM</p> <p>4. Random-access memory</p>	3.0
344	The performance of cache memory is frequently measured in terms of a quantity called	<p>1. hit ratio</p> <p>2. miss ratio</p> <p>3. average ratio</p> <p>4. ratio</p>	1.0
345	The smallest integer than can be represented by an 8-bit number in 2? complement form is	<p>1. -256</p> <p>2. -128</p> <p>3. -127</p> <p>4. 1</p>	2.0
346	The main difference between JK and RS flip-flop is that	<p>1. JK flip flop needs a clock pulse</p> <p>2. There is a feedback in JK flip-flop</p> <p>3. JK flip-flop accepts both inputs as 1</p> <p>4. JK flip-flop is acronym of Junction cathode multi-vibrator</p>	3.0

S.NO.	Questions	Choices	Answers
347	The rate at which a computer clock deviates from a perfect reference clock is called as	1. Clock rate 2. Clock speed 3. clock drift rate 4. Transmission Bandwidth	3.0
348	The width of the physical address on a machine is 40 bits. The width of the tag field in a 512 KB 8-way set associative cache is _____ bits	1. 21 2.22 3. 23 4. 24	4.0
349	To build a mod-19 counter the number of flip-flops required is	1. 3 2. 5 3. 7 4. 9	2.0
350	Using 10's complement $72532 - 3250$ is	1. 69282 2. 69272 3. 69252 4. 69232	1.0
351	What is the main difference between traps and interrupts?	1. How they are initiated 2. The kind of code that's used to handle them 3. Whether or not the scheduler is called 4. How the operating system returns from them	1.0

S.NO.	Questions	Choices	Answers
352	When an instruction is read from the memory, it is called	1. Memory Read cycle 2. Fetch cycle 3. Instruction cycle 4. Memory write cycle	3.0
353	Which amongst the following refers to Absolute addressing mode	1. move R1, R2 2. move LOC1, LOC2 3. move LOC1, R2 4. move LOC2, R1	1.0
354	Which level of RAID refers to disk mirroring with block striping?	1. RAID level 1 2. RAID level 2 3. RAID level 0 4. RAID level 3	1.0
355	Which of the following logic expression is incorrect?	1. $1 \oplus 0 = 1$ 2. $1 \oplus 1 \oplus 0 = 1$ 3. $1 \oplus 1 \oplus 1 = 1$ 4. $1 \oplus 1 = 0$	2.0
356	Which of the following paging algorithms is most likely to be used in a virtual memory system?	1. FIFO 2. Second chance 3. Least Recently Used 4. Least Frequently Used	3.0

S.NO.	Questions	Choices	Answers
357	Which one of the following connects high-speed high-bandwidth device to memory subsystem and CPU.	1. expansion bus 2. PCI bus 3. SCSI bus 4. none of the mentioned	1.0
358	Which one of these is characteristic of RAID 5?	1. Distributed parity 2. No Parity 3. All parity in a single disk 4. Double Parity	1.0
359	Which two RAID types use parity for data protection?	1. RAID 1 2. RAID 4 3. RAID 1+0 4. RAID 5	4.0
360	X=1010100 and Y=1000011 using 1's complement Y-X is	1. -10111 2. -10011 3. -10001 4. -11001	3.0
361	The minimum number of NAND gates required to implement the Boolean function. A + AB' + AB'C is equal to	1. Zero 2. 3. 4. 7	1.0

S.NO.	Questions	Choices	Answers
362	Which of the following boolean expressions is not logically equivalent to all of the rest ?	1. $ab + (cd)' + cd + bd'$ 2. $a(b + c) + cd$ 3. $ab + ac + (cd)'$ 4. $bd' + c'd' + ab + cd$	3.0
363	Which of the following unit will choose to transform decimal number to binary code ?	1. Encoder 2. Decoder 3. Multiplexer 4. Counter	1.0
364	If the associativity of a processor cache is doubled while keeping the capacity and block size unchanged, which one of the following is guaranteed to be NOT affected?	1. Width of tag comparator 2. Width of set index decoder 3. Width of way selection multiplexer 4. Width of processor to main memory data bus	4.0
365	The correspondence between the main memory blocks and those in the cache is given by	1. Hash function 2. Mapping function 3. Locale function 4. Assign function	2.0
366	The stage delays in a 4-stage pipeline are 800, 500, 400 and 300 picoseconds. The first stage (with delay 800 picoseconds) is replaced with a functionally equivalent design involving two stages with respective delays 600 and 350 picoseconds. The throughput increase of the pipeline is _____ percent.	1. 33 2. 34 3. 35 4. 32	1.0
367	What is the software that runs a computer, including scheduling tasks, managing storage, and handling communication with peripherals?	1. driver 2. application suite 3. operating system 4. bluetooth technology	3.0

S.NO.	Questions	Choices	Answers
368	For an undirected graph with n vertices and e edges, the sum of the degree of each vertex is equal to	1. $1.2n$ 2. $(2n-1)/2$ 3. $2e$ 4. $\text{pow}(e,2)/2$	3.0
369	Which attribute is used to extend the lifetime of a cookie?	1. higher-age 2. increase-age 3. max-age 4. lifetime	3.0
370	<h2 style="color:blue">I am Blue</h2> is _____ way of styling HTML elements	1. Internal Style 2. Inline Style 3. External Style 4. Default	2.0
371	_____ is referred to as Static Web	1. Web 1.0 2. Web 2.0 3. Web 3.0 4. Web 4.0	1.0
372	A priority queue is implemented as a Max-Heap. Initially, it has 5 elements. The level-order traversal of the heap is: 10, 8, 5, 3, 2. Two new elements 1 and 7 are inserted into the heap in that order. The level-order traversal of the heap after the insertion of the elements is:	1. 10, 8, 7, 3, 2, 1, 5 2. 10, 8, 7, 2, 3, 1, 5 3. 10, 8, 7, 1, 2, 3, 5 4. 10, 8, 7, 5, 3, 2, 1	1.0
373	A binary tree in which if all its levels except possibly the last, have the maximum number of nodes and all the nodes at the last level appear as far left as possible, is known as	1. full binary tree 2. AVL tree 3. threaded tree 4. complete binary tree	1.0

S.NO.	Questions	Choices	Answers
374	A binary tree T has 20 leaves. The number of nodes in T having two children is	1. 34 2. 99 3. 7 4. 19	4.0
375	A process executes the code fork(); fork(); fork(); The total number of child processes created is	1. 3 2. 4 3. 7 4. 8	3.0
376	A Search engine can serve as	1. both as a server and a client 2. As Client always 3. As Server always 4. Neither client nor server	1.0
377	An object of class A receives a message with an argument that is an instance of class B. Identify the type of relationship between class A and Class B:	1. Generalization 2. Association 3. Aggregation 4. Realization	1.0
378	Consider an undirected graph G where self-loops are not allowed. The vertex set of G is $\{(i, j) : 1 = i = 12, 1 = j = 12\}$. There is an edge between (a, b) and (c, d) if $ a - c = 1$ and $ b - d = 1$. The number of edges in this graph is	1. 505 2. 506 3. 507 4. 508	2.0
379	Consider an undirected random graph of eight vertices. The probability that there is an edge between a pair of vertices is $\frac{1}{2}$. What is the expected number of unordered cycles of length three?	1. 1/8 2. 1 3. 7 4. 8	3.0

S.NO.	Questions	Choices	Answers
380	<p>Consider the C function given below.</p> <pre>int f(int j) { static int i = 50; int k; if (i == j) { printf("something"); k = f(i); return 0; } else return 0; }</pre> <p>Which one of the following is TRUE?</p>	<p>1. The function returns 0 for all values of j.</p> <p>2. The function prints the string something for all values of j.</p> <p>3. The function returns 0 when j = 50.</p> <p>4. The function will exhaust the runtime stack or run into an infinite loop when j = 50.</p>	4.0
381	<p>Consider the following function written the C programming language.</p> <pre>void foo (char * a) { if(* a && * a !=''){ putchar (*a); } } }</pre> <p>The output of the above function on input 'ABCD EFGH' is</p>	<p>1. ABCD EFGH</p> <p>2. ABCD</p> <p>3. HGFE DCBA</p> <p>4. DCBA</p>	1.0
382	<p>Consider the following New-order strategy for traversing a binary tree:</p> <p>1)Visit the root; 2)Visit the right subtree using New-order; 3)Visit the left subtree using New-order;</p> <p>The New-order traversal of the expression tree corresponding to the reverse polish expression 3 4 * 5 - 2 ? 6 7 * 1 + - is given by:</p>	<p>1. + - 1 6 7 * 2 ? 5 - 3 4 *</p> <p>2. . - + 1 * 6 7 ? 2 - 5 * 3 4</p> <p>3. - + 1 * 7 6 ? 2 - 5 * 4 3</p> <p>4. . 1 7 6 * + 2 5 4 3 * - ? -</p>	3.0
383	<p>Consider the following program:</p> <pre>int f(int *p, int n) { if (n <= 1) return 0; else return max (f(p+1, n-1),p[0]-p[1]); } int main() { int a[] = {3,5,2,6,4}; printf("%d", f(a,5)); }</pre> <p>The value printed by this program is</p>	<p>1. 2</p> <p>2. 1</p> <p>3. 3</p> <p>4. 4</p>	3.0
384	<p>Consider the following recursive C function.</p> <pre>Void get (int n) {if (n<1) return; get (n-1) get (n-3) ; printf ("%d",n);</pre> <p>If get(6) function is being called in main () then how many times will the get() function be invoked before returning to the main () ?</p>	<p>1. 15</p> <p>2. 25</p> <p>3. 43</p> <p>4. 24</p>	2.0

S.NO.	Questions	Choices	Answers
385	<p>Consider the function func shown below:</p> <pre>int func(int num) { int count = 0; while (num) { count++; num>= 1; } return (count); }</pre> <p>The value returned by func(435) is</p>	1. 7 2. 8 3. 9 4. 0	3.0
386	<p>For the array (77 ,62,114,80,9,30,99), write the order of the elements after two passes using the Radix sort</p>	1. 80 30 62 114 77 9 99 2. 114 30 62 77 9 99 3. 9 114 30 62 77 80 99 4. 9 30 62 77 80 99 114	2.0
387	<p>How can you make a list that lists the items with numbers?</p>	1. <list> 2. 3. <dl> 4. 	2.0
388	<p>How do you write "Hello World" in PHP?</p>	1. using System.out.println 2. using Document.Write("Hello World") 3. "Hello World" 4. using echo("Hello World")	4.0
389	<p>HTTP is implemented over</p>	1. UDP 2. TCP 3. SMTP 4. POP	2.0
390	<p>If every node u in G adjacent to every other node v in G, A graph is said to be</p>	1. isolated 2. complete 3. finite 4. strongly connected	2.0

S.NO.	Questions	Choices	Answers
391	In a connected graph, a bridge is an edge whose removal disconnects a graph. Which one of the following statements is true?	1. A tree has no bridges 2. A bridge cannot be part of a simple cycle 3. Every edge of a clique with size 3 is a bridge (A clique is any complete sub graph of a graph) 4. A graph with bridges cannot have a cycle	4.0
392	In HTTP, which method gets the resource as specified in the URI	1. GET 2. POST 3. PUT 4. TRACE	3.0
393	Java package is a grouping mechanism with the purpose of	1. Providing the library for the Java program 2. Controlling the visibility of the classes, interfaces and methods 3. Replacing header file used in C/C++ 4. An application framework	2.0
394	Suppose a circular queue of capacity ($n \geq 1$) elements is implemented with an array of n elements. Assume that the insertion and deletion operations are carried out using REAR and FRONT as array index variables, respectively. Initially, REAR = FRONT = 0. The conditions to detect queue full and queue empty are	1. full: (REAR+1) mod n == FRONT empty: REAR == FRONT 2. (REAR) mod n == FRONT empty: REAR == FRONT 3. (REAR+1) mod n == Rear empty: REAR == FRONT 4. full: (FRONT+1) mod n == FRONT empty: REAR == FRONT	1.0
395	<p>The following function computes the maximum value contained in an integer array p[] of size n ($n \geq 1$).</p> <pre>int max(int *p, int n) { int a=0, b=n-1; while (_____) { if(p[a] <= p[b]) { a = a+1; } else { b = b-1; } } return p[a]; }</pre> <p>The missing loop condition is</p>	1. a != n 2. b != 0 3. b > (a+1) 4. b != a	4.0
396	The following HTML element helps making animated text	1. 2. <ins> 3. <mark> 4. <marquee>	4.0

S.NO.	Questions	Choices	Answers
397	The number of ways in which the numbers 1, 2, 3, 4, 5, 6, 7 can be inserted in an empty binary search tree, such that the resulting tree has height 6, is	1. 63 2. 64 3. 65 4. 66	2.0
398	The purpose of a TLB is	1. To cache page translation information 2. To cache frequently used data 3. To hold register values while a process is waiting to be run 4. To hold the start and length of the page table	2.0
399	The following HTML element is used to display horizontal line	1. 2. <h> 3. <hr> 4. <h2>	3.0
400	To prevent any method from overriding, the method has to declared as,	1. static 2. const 3. final 4. extends	3.0
401	Use of _____ allows for some processes to be waiting on I/O while another process executes.	1. multiprogramming 2. multiuser interfacing 3. Random scheduling 4. Variable cpu cycles	1.0
402	What are the parameters of the service method?	1. ServletRequest and ServletResponse 2. HttpServletRequest and HttpServletResponse 3. HttpRequest and HttpResponse 4. Request and Response	2.0

S.NO.	Questions	Choices	Answers
403	What does JSP stand for?	1. Java Scripting Pages 2. Java Service Pages 3. Java Server Pages 4. Java Script Program	3.0
404	What does the following bit of JavaScript print out? var a = [1,,3,4,5]; console.log([a[4], a[1], a[5]]);	1. 5, undefined,undefined 2. 3. 5,3,undefined 4. 5,null,undefined	1.0
405	What is cell padding?	1. Used to separate cell walls from their contents 2. Used to set space between cells 3. Used to provide width to a cell 4. Used to merge two cells	2.0
406	What is the correct HTML for making a text input field?	1. <input type="text"> 2. <textfield> 3. <input type="textfield"> 4. <textinput type="text">	1.0
407	What will be printed as the output of the following program? public class testinr { public static void main(String args[]) { int i = 0; i = i++ + i; System.out.println(" I = " +i); }}	1. I = 0 2. I = 1 3. I = 2 4. I = 3	2.0

S.NO.	Questions	Choices	Answers
408	Which method is used to get the year of a date object in YYYY format in Javascript.	1. getYear() 2. getYYYY() 3. getFullYear() 4. get4Year()	1.0
409	Which of the following input controls that cannot be placed using <input> tag?	1. Text 2. Password 3. Submit 4. Textarea	4.0
410	Which is the correct CSS syntax?	1. body;color=black 2. {body;color:black} 3. {body;color=black(body} 4. body {color: black}	4.0
411	Which of the following asymptotic notation is the worst among all?	1. n + 9378 2. 2^n-1 3. 2^n - 1 4. 2n ? 1	2.0
412	Which of the following is/are example(s) of stateful application layer protocols? (i)HTTP (ii)FTP (iii)TCP (iv)POP3	1. (i) and (ii) only 2. (ii) and (iii) only 3. (ii) and (iv) only 4. (iv) only	3.0
413	Which of these is not a valid attribute of <tr> element?	1. valign 2. bgcolor 3. align 4. rowspan	4.0

S.NO.	Questions	Choices	Answers
414	Which of these methods has no restrictions on content size when a form is submitted.	1. GET 2. HEAD 3. POST 4. PUT	3.0
415	Which one is the first search engine in internet?	1. Google 2. Archie 3. AltaVista 4. WAIS	2.0
416	While inserting the elements 71,65,84,69,67,83 in an empty binary search tree (BST) in the sequence shown, the element in the lowest level is	1. 45 2. 67 3. 34 4. 78	2.0
417	A mailer that transforms a message body of an e-mail into a web page is called a	1. Browser enriched mail client 2. HTML-enabled mail client 3. Rich Text mail client 4. client server mail client	2.0
418	An incorrectly typed command will cause the operating system to display	1. a prompt 2. an error message 3. a question mark 4. causes exception	2.0
419	Choose the correct HTML to left-align the content inside a table cell	1. <tdleft> 2. <td leftalign> 3. <td valign="left"> 4. <td align="left">	4.0

S.NO.	Questions	Choices	Answers
420	<p>Consider the below code fragment:</p> <pre>if(fork() == 0) { a= a+5; printf("%d, %d \n", a, &a); } else { a= a ? 5; printf("%d %d \n", 0, &a); }</pre> <p>Let u, v be the values printed by parent process and x, y be the values printed by child process. Which one of the following is true?</p>	1. u= x + 10 and v = y 2. u= x + 10 and v!= y 3. u + 10= x and v = y 4. u + 10= x and v != y	3.0
421	<p>Consider the following C code segment:</p> <pre>int a, b, c = 0; void prtFun(void); main() { static int a = 1; /* Line 1 */ prtFun(); a += 1; prtFun() printf("\n %d %d", a, b); } void prtFun(void) { static int a=2; /* Line 2 */ int b=1; a+=++b; printf("\n %d %d", a, b); }</pre> <p>What output will be generated by the given code segment if: Line 1 is replaced by auto int a = 1; Line 2 is replaced by register int a = 2;</p>	1. 31 41 42 2. 42 61 61 3. 42 62 20 4. 42 20	4.0
422	<p>Consider the following C program.</p> <pre>#include <stdio.h> int f1 (void) ; int f2 (void) ; int x = 10; int main () { int x=1; x+=f1()+ f2()+f3()+f2() ; printf("%d", x); return 0; } int f1(){int x=25; x++; return x;} int f2(){static int x =50; x++;return x;} int f3(){x*=10; return x;}</pre> <p>The output of the program is _____.</p>	1. 434 2. 230 3. 43 4. 432	2.0
423	<p>Consider the following program:</p> <pre>int f(int *p, int n) { if(n <= 1) return 0; else return max (f(p+1, n-1),p[0]-p[1]); } int main() { int a[] = {3,5,2,6,4}; printf("%d", f(a,5)); }</pre> <p>The value printed by this program is</p>	1. 1 2. 2 3. 3 4. 4	3.0

S.NO.	Questions	Choices	Answers
424	<p>Find the output of the following program?</p> <pre>#include <iostream.h> using namespace std; void myFunction(int& x, int* y, int* z) { static int temp=1; temp += (temp + temp) - 1; x += *(y++ + *z)+ temp - ++temp; *y=x; *z= x; cout<<x<<*y<<*z<<temp; } int main() { int i = 0; int j[] = {0, 1, 2, 3, 4, 5, 6, 7, 8, 9}; i=i++ - ++i; myFunction(i, j, &i); return 0; }</pre>	<p>1. 3 3 3 2 2. 3 2 3 3 3. 3 2 3 2 4. 3 1 3 3</p>	gar3
425	If you don't want the frame windows to be resizable, simply add what to the lines ?	<p>1. save 2. dontresize 3. noresize 4. Delete</p>	3.0
426	Sockets originate from	<p>1. BSD Unix 2. Windows 3. Linux 4. Mac</p>	1.0
427	The preorder traversal sequence of a binary search tree is 30, 20, 10, 15, 25, 23, 39, 35, 42.Which one of the following is the postorder traversal sequence of the same tree?	<p>1. 10,20,15,23,25,35,42,39,30 2. 15,10,25,23,20,42,35,39,30 3. 15,20,10,23,25,42,35,39,30 4. 15,10,23,25,20,35,42,39,30</p>	4.0
428	What will be the output of the following C program?	<pre>void count(int n){ static int d=1; printf("%d ", n); printf("%d ", d); d++; if(n>1) count(n-1); printf("%d ", d); } void main(){ count(3); }</pre> <p>1. 3 1 2 2 1 3 4 4 4 2. 3 1 2 1 1 1 2 2 2 3. 3 1 2 2 1 3 4 4. 3 1 2 1 1 1 2</p>	1.0

S.NO.	Questions	Choices	Answers
429	Where in an HTML document is the correct place to refer to an external style sheet?	<p>1. In the section</p> <p>2. In the section</p> <p>3. At the end of the document</p> <p>4. At the top of the document</p>	head
430	Which of the following is included in the head section of HTML	<p>1. title,body,form and script</p> <p>2. title,meta tag,script and CSS</p> <p>3. title , meta tag,css and form</p> <p>4. title, body,script and CSS</p>	2.0
431	Which of these is Server side technology?	<p>1. CGI</p> <p>2. HTML</p> <p>3. JavaScript</p> <p>4. CSS</p>	3.0
432	Which of the following in HTML is used to left align the content inside a table cell?	<p>1. <td raligh = "left" ></p> <p>2. <tdleft></p> <p>3. <td leftalign></p> <p>4. <td align = "left"></p>	4.0
433	Which one of the following statements is NOT correct about HTTP cookies?	<p>1. A cookie is a piece of code that has the potential to compromise the security of an internet user</p> <p>2. A cookie gains entry to the user's work area through an HTTP header</p> <p>3. A cookie has an expiry date and time</p> <p>4. Cookies can be used to track the browsing pattern of a user at a particular site</p>	1.0
434	<p>Consider the following program:</p> <pre>int f(int *p, int n) { if(n <= 1) return 0; else return max (f(p+1, n-1),p[0]-p[1]); } int main() { int a[] = {3,5,2,6,4}; printf("%d", f(a,5)); }</pre> <p>The value printed by this program is</p>	<p>1.</p> <p>2.</p> <p>3.</p> <p>4.</p>	3.0

S.NO.	Questions	Choices	Answers
435	Which of these methods has no restrictions on content size when a form is submitted.	1. GET 2. HEAD 3. POST 4. PUT	3.0
436	_____ datastructure used in pushdown automata.	1. Stack 2. array 3. queue 4. linked list	1.0
437	Consider the following: temp=root->left; while(temp->right!=NULL) temp=temp->right; return temp; The above code snippet for a BST with the address of the root node in pointer 'root' returns	1. Inorder successor of the root 2. Maximum element in the right subtree of root 3. Minimum element in the right subtree of root 4. Inorder predecessor of the root	4.0
438	_____ is used to define a special CSS style for a group of HTML elements	1. Class attribute 2. name attribute 3. group attribute 4. id attribute	1.0
439	The _____ attribute defines the action to be performed when the form is submitted	1. method attribute 2. action attribute 3. onSubmit attribute 4. onClick attribute	2.0
440	Consider a schedule S1 given below; R1(A); W1(A); R2(B); R2(A); R1(B); W2(A+B); W1(B); where R1 and W1 are read and write operations of transaction T1 and R2 and W2 are read and write operations of transaction T2. Which of the following is correct regarding schedule S1?	1. S1 is a serializable schedule 2. A deadlock will occur if 2PL is used 3. S1 is a conflict serializable schedule 4. S1 is a view serializable schedule	4.0

S.NO.	Questions	Choices	Answers
441	Boolean algebra is also called	<p>1. switching algebra</p> <p>2. arithmetic algebra</p> <p>3. linear algebra</p> <p>4. algebra</p>	1.0
442	Software prototyping helps to	<p>1. generate code</p> <p>2. provide thorough testing</p> <p>3. explore possible software solutions</p> <p>4. collect initial software requirements</p>	2.0
443	Activities such as documentation and software configuration management are what kind of process activities?	<p>1. Primary</p> <p>2. Validation</p> <p>3. Design</p> <p>4. supporting</p>	4.0
444	In incremental delivery the _____ services are typically delivered first	<p>1. quickest to complete</p> <p>2. highest-priority</p> <p>3. cheapest</p> <p>4. most fun to code</p>	2.0
445	In incremental development system structure tends to _____ as many new increments are added.	<p>1. degrade</p> <p>2. improve</p> <p>3. develop its own AI</p> <p>4. shrink</p>	1.0

S.NO.	Questions	Choices	Answers
446	Software specifications are intended to communicate the system needs _____	1. of the developers to the clients 2. to marketing 3. of the clients to the developers 4. to the general public	3.0
447	This software process model takes the fundamental activities of specification, development, validation, and evolution and represents them as separate process phases such as requirements specification, software design, implementation, testing, and so on	1. Incremental development 2. The waterfall model 3. Reuse-oriented software engineering 4. Boehm's spiral model	2.0
448	What is a software process model?	1. A simplified representation of a software process 2. A presentation put together in Powerpoint 3. A work flow model of the software's components 4. A prototype of the final software product	1.0
449	What is a type of software design that designs system data structures to be used in a database?	1. architectural design 2. interface Design 3. component Design 4. Database design	4.0
450	What is based on the idea of developing an initial implementation, exposing this to user comment and evolving it through several versions until an adequate system has been developed?	1. The Waterfall Method 2. Incremental Development 3. Reuse-oriented Software Engineering 4. Implementation And Unit Testing	2.0
451	What is NOT part of the design process	1. Architectural design 2. Database design 3. Component design 4. Validation testing	4.0

S.NO.	Questions	Choices	Answers
452	Which is not part of the waterfall method?	1. Requirements Definition 2. System and Software Design 3. Implementation and Unit Testing 4. System Validation	4.0
453	Which statement best describes a benefit of Incremental development over the waterfall model	1. It is possible to gather more of the requirements up front 2. Time to market is faster because there is less overhead 3. It is easier to get customer feedback on the development work that's been done 4. It is easier to reuse existing components.	3.0
454	_____ adds to the costs of Software Development because it usually means that work that has been completed has to be redone	1. Picture quality 2. Production 3. Software speed 4. Change	4.0
455	Given the following structure template, choose the correct syntax for accessing the 5th subject marks of the 3rd student: struct stud { int marks[6]; char sname[20]; char rno[10]; }s[10];	1. stud[2].marks[4] 2. stud[4].marks[2] 3. s[2].marks[4] 4. s[4].marks[2]	3.0
456	By default, any real number in C is treated as _____	1. a float 2. a double 3. a long double 4. depends on the memory model	1.0
457	_____ is the 1st step in the testing process	1. Analyze results 2. Plan test 3. Release product 4. Conduct tests	2.0

S.NO.	Questions	Choices	Answers
458	A set of documents in which a given document can contain text, graphics video and audio clips as well as embedded references to other documents world wide web pages are called as -----	1. Hypermedia message 2. Hypertext document 3. Hypermedia Documents 4. Path rectangular grid of Pixels	3.0
459	A software requirements specification (SRS) document should avoid discussing which one of the following?	1. User interface issues 2. Non-functional requirements 3. Design specification 4. Interfaces with third party softwareKey	1.0
460	Consider a B+ tree in which the search Answer is 12 bytes long, block size is 1024 bytes, record pointer is 10 bytes long and block pointer is 8 bytes long. The maximum number of keys that can be accommodated in each non-leaf node of the tree is _____	1. 40 2. 50 3. 60 4. 70	2.0
461	Extreme Programming process model includes framework activities such as	1. analysis, design,coding,testing 2. planning,analysis,design,coding 3. planning,analysis,coding,testing 4. planning, design, coding, testing	4.0
462	For automatic objects, constructors and destructors are called each time the objects _____	1. enter and leave scope 2. inherit parent class 3. are constructed 4. are destroyed	1.0
463	Important capability needed for an agile software developer is	1. Trust 2. Competence 3. Decision-making 4. HardworkKey	3.0

S.NO.	Questions	Choices	Answers
464	In which phase is Agile Modeling(AM) carried out	1. Analysis 2. Coding 3. Planning 4. TestingKey	3.0
465	Mnemonic codes and variable names are used in	1. Machine language 2. Assembly language 3. high level language 4. Used nowhere	2.0
466	Waterfall model of software development is also termed as	1. The linear sequential model 2. Fountain model 3. Spiral model 4. Concurrent development model	1.0
467	Which of the following is not a Life-critical System?	1. Fire Dispatch Systems 2. Nuclear Reactors 3. Power Utilities 4. Inventory Management	4.0
468	Which of the following statement is correct about destructors?	1. A destructor has void return type. 2. A destructor has integer return type. 3. A destructor has no return type. 4. A destructors return type is always same as that of main()	3.0
469	<pre>#include <iostream.h> using namespace std; int main() { int x=20; if(!x&&x) cout<< else { x=10; cout<< return 0; } }</pre>	1. 20 2. 10 3. 1 4. 0	1.0

S.NO.	Questions	Choices	Answers
470	<p>Find the output of the following program?</p> <pre>#include <iostream.h> using namespace std; typedef int * IntPtr; int main() { IntPtr A, B, C; int D,E; A = new int(3); B = new int(6); C = new int(9); D = 10; E = 20; *A = *B; B = &E; D = (*B)++; *C=(*A)++ * (*B)--; E= *C++ - *B--; cout<<*A<<*B<<*C< return 0; }</pre>	1. 62010206 2. 72010107 3. 71020106 4. 10720107	2.0
471	<p>If a , b , c, are three nodes connected in sequence in a singly linked list, find the valid statement that may help to change this list to a circular linked list?</p>	1. a->next=c 2. b->next=c 3. a->next=c 4. c->next=b	4.0
472	<p>Round Robin scheduling is the strategy of temporarily suspending a running process</p>	1. After the CPU time slice expires 2. to allow starving processes to run 3. when it requests IO 4. when OS wait	1.0
473	<p>With a single resource, deadlock occurs _____</p>	1. if there are more than two processes competing for that resource 2. if there are only two process completing for that resource 3. if there is a single process competing for that resource 4. it never occur in this case	1.0
474	<p>_____ OS pays more attention on the meeting of the time limits.</p>	1. Distributed 2. Network 3. Real time 4. Desktop	3.0

S.NO.	Questions	Choices	Answers
475	Consider a software program that is artificially seeded with 100 faults. While testing this program, 159 faults are detected, out of which 75 faults are from those artificially seeded faults. Assuming that both real and seeded faults are of same nature and have same distribution, the estimated number of undetected real fault is	1. 121 2. 175 3. 432 4. 428	4.0
476	Given the code String s1 = ? VIT? ; String s2 = ? VIT ? ; String s3 = new String (s1); Which of the following would equate to true?	1. s1 == s2 2. s1 = s2 3. s3 == s1 4. s3=s1	13.0
477	Suppose T is a binary tree with 14 nodes. What is the minimum possible depth of T?	1. 0 2. 3 3. 4 4. 5	2.0
478	The following HTML _____ element contains meta data which is not displayed inside the document	1. <form> 2. <title> 3. <table> 4. <frame>	2.0
479	To link your Web page to a style sheet, you must use the _____ tag	1. <STYLESHEET> 2. <STYLE> 3. <link> 4. <web>	3.0
480	Which of these will create a shuffled list?	1. 2. 3. <dl> 4. Nested list	1.0

S.NO.	Questions	Choices	Answers
481	Which one of the following is a cryptographic protocol used to secure HTTP connection?	1. Stream Control Transmission Protocol (SCTP). 2. Transport Layer Security (TSL). 3. Explicit Congestion Notification (ECN). 4. Resource Reservation Protocol.	2.0
482	Which of the following is example of in-place algorithm?	1. Bubble Sort 2. Merge Sort 3. Insertion Sort 4.	3.0
483	Which of these is asymptotically bigger?	1. $79n^2+43n$ 2. $65n^3+34n$ 3. $6*2^n$ 4. $5*2^n$	2.0
484	_____ bit in ICW1 indicates whether the 8259A is cascade mode or not	1.LTIM=0 2.LTIM=1 3.SNGL=1 4.SNGL=0	4.0
485	_____ messages are typically used for diagnostic or control purposes or generated in response to errors in IP operations.	1.ICMP 2.TCP 3.UDP 4.IP	1.0
486	_____ gives the number of bits that can be transmitted over a network in a fixed time period.	1.Latency 2.Jitter 3.Bandwidth 4.Delay	3.0
487	_____ cryptography refers to encryption methods in which both the sender and receiver share the same key.	1.Symmetric 2.Asymmetric 3.Ceaser key 4.Asymmetric key	1.0
488	_____ is responsible for the final encapsulation of higher-level messages into frames that are sent over the network using the physical layer.	1.Data link layer 2.Network layer 3.Application layer 4.Session layer	1.0
489	_____ appends to the address a slash character and the decimal number of leading bits of the routing prefix.	1.CIDR 2.TCP 3.UDP 4.IP	1.0
490	_____ is assigned to an organization by a global authority.	1.Subnet ID 2.Supernet ID 3.Host ID 4.Network ID	4.0
491	_____ produces the relation that has attributes of R1 and R2	1. Cartesian product 2. Difference 3. Intersection 4. Product	1.0
492	_____ should keep track of multiple file downloads requested by a particular FTP application, or multiple telnet connections from a single terminal client, or web page retrievals from a web server.	1.Transport layer 2.Application layer 3.Presentation layer 4.Session layer	1.0
493	_____ functions as a request-response protocol in the client-server computing model.	1.HTTP 2.IP 3.TCP 4.UDP	1.0
494	_____ is commonly used in wireless LAN.	1. time division multiplexing 2. orthogonal frequency division multiplexing 3. space division multiplexing 4. long division multiplexing	2.0

S.NO.	Questions	Choices	Answers
495	_____ scheduler selects the jobs from the pool of jobs and loads into the ready queue.	<p>1. Long term</p> <p>2. Short term</p> <p>3. Medium term</p> <p>4. None of these</p>	1.0
496	_____ does the job of allocating a process to the processor.	<p>1. Long term scheduler</p> <p>2. Short term scheduler (CPU Scheduler)</p> <p>3. Medium term scheduler</p> <p>4. Dispatcher</p>	4.0
497	has a dedicated communication path between stations	1.Circuit switching 2.Frame relay 3.Packet switching 4.ATM	1.0
498	_____ is a high speed cache used to hold recently referenced page table entries as a part of paged virtual memory	<p>1. Translation Look-aside buffer</p> <p>2. Inverse page table</p> <p>3. Segmented page table</p> <p>4. Hierarchical page table</p>	1.0
499	_____ memory management scheme will produce least fragment	<p>1. Best Fit</p> <p>2. Worst Fit</p> <p>3. First Fit</p> <p>4. None of these</p>	1.0
500	_____ register keeps tracks of the instructions stored in program stored in memory.	<p>1. AR (Address Register)</p> <p>2. XR (Index Register)</p> <p>3. PC (Program Counter)</p> <p>4. AC (Accumulator)</p>	3.0
501	states that it is Optimal Replacement algorithm	<p>1. Replace the page that will not be used for a longest period of time</p> <p>2. Replace the page that will not be used for a shortest period of time</p> <p>3. Replace the page that will be used for a longest period of time</p> <p>4. Replace the page that will be used for a shortest period of time</p>	1.0
502	algorithm is used for the flow control of data between sender and receiver.	1.Dijkstra 2.RIP 3.Leaky bucket 4.Go Back N	4.0

S.NO.	Questions	Choices	Answers
503	_____ programs automatically connects to web sites and download documents and save them to local drive	1. Web Servers 2. Web Downloading Utilities 3. Stay Connected 4. Offline Browsers	2.0
504	_____ signal prevent the microprocessor from reading the same data more than one	1.pipeline	2.0
505	_____ function in PHP returns a list of response headers sent (or ready to send)	1.header() 2.headers_list() 3.header_sent() 4.header_send()	2.0
506	_____ is an initial version of a software system that is used to demonstrate concepts, try out design options, and find out more about the problem and its possible solutions.	1. Prototype 2. Architectural Design 3. Subsystem 4. Module	1.0
507	_____ is a basic unit of CPU utilization	1. Process 2. Thread 3. Process Control Block 4. Program Counter	2.0
508	_____ is a logical unit of access to a DBMS	1.Transaction 2.Optimization 3.Schema 4.Data	1.0
509	A graphical HTML browser resident at a network client machine Q accesses a static HTML webpage from a HTTP server S. The static HTML page has exactly one static embedded image which is also at S. Assuming no caching, which one of the following is correct about the HTML webpage loading (including the embedded image)?	1. Q needs to send at least 2 HTTP requests to S, each necessarily in a separate TCP connection to server S 2. Q needs to send at least 2 HTTP requests to S, but a single TCP connection to server S is sufficient 3. A single HTTP request from Q to S is sufficient, and a single TCP connection between Q and S is necessary for this 4. A single HTTP request from Q to S is sufficient, and this is possible without any TCP connection between Q and S	2.0
510	A 20-bit address bus can locate _____.	1. 1,048,576 locations 2. 2,097,152 locations 3. 4,194,304 locations 4. 8,388,608 locations	1.0
511	A 32-bit address bus allows access to a memory of capacity	1.1 GB 2.16 MB 3.64 MB 4.4 GB	4.0

S.NO.	Questions	Choices	Answers
512	A B-tree of order m has maximum of _____ children	1. m 2. m + 1 3. m - 1 4. m/2	1.0
513	A binary code that progresses such that only one bit changes between two successive codes is:	1.Gray code 2.excess-3 code 3.8421 code 4.nine's-complement code	1.0
514	A certain 5-bit self-complementary code is used to represent the 10 decimal digits 0 through 9. Given that (246) in decimal is represented as 00010 00100 00110 in this code, what is the representation for (375)?	1.00110 00100 00010 2.00011 00111 00101 3.11001 11101 11011 4.11101 11011 11001	4.0
515	A client process P needs to make a TCP connection to a server process S. Consider the following situation: the server process S executes a socket(), a bind() and a listen() system call in that order, following which it is preempted. Subsequently, the client process P executes a socket() system call followed by connect() system call to connect to the server process S. The server process has not executed any accept() system call. Which one of the following events could take place?	1. connect () system call returns successfully 2. connect () system call blocks 3. connect () system call returns an error 4. connect () system call results in a core dump	3.0
516	A COCOMO model is	1. Common Cost Estimation Model. 2. Constructive Cost Estimation Model. 3. Complete Cost Estimation Model. 4. Comprehensive Cost Estimation Model.	2.0
517	A collection of unused memory reserved for dynamic allocation is called	1.Heap 2.Static 3.array 4.stack dynamic	1.0
518	A comparison between ring and Johnson counters indicates that:	1.A ring counter has fewer flip-flops but requires more decoding circuitry 2.A ring counter has an inverted feedback path 3.A Johnson counter has more flip-flops but less decoding circuitry 4.A Johnson counter has an inverted feedback path	4.0
519	A computer on a 10Mbps network is regulated by a token bucket. The token bucket is filled at a rate of 2Mbps. It is initially filled to capacity with 16Megabits. What is the maximum duration for which the computer can transmit at the full 10Mbps?	1. 1.6 seconds 2. 2 seconds 3. 5 seconds 4. 8 seconds	2.0
520	A data structure where elements can be added or removed at either end but not in the middle	1.linked lists 2.Stacks 3.Queues 4.Deque	4.0
521	A fault simulation testing technique is	1. Mutation testing 2. Stress testing 3. Black box testing 4. White box testing	1.0
522	A grammar that produces more than one parse tree for some sentence is called	1.Ambiguous 2.Irregular 3.Regular 4.Unambiguous	1.0

S.NO.	Questions	Choices	Answers
523	A group of bits that tell the computer to perform a specific operation is known as _____. 524 A J-K flip-flop is in a "no change" condition when _____.	1. Instruction code 2. Micro-operation 3. Accumulator 4. Register 1.J = 1, K = 1 2.J = 1, K = 0 3.J = 0, K = 1 4.J = 0, K = 0	1.0 4.0
525	A language is represented by a regular expression $(a)^*(a+ba)$. Which of the following string does not belong to the regular set represented by the above expression. 526 A layer-4 firewall cannot	1. aaa 2. aba 3. ababa 4. aa 1. block HTTP traffic during 9:00PM and 5:00AM 2. block all ICMP traffic 3. stop incoming traffic from a specific IP address but allow outgoing traffic to same IP 4. block TCP traffic from a specific user on a specific IP address on multi-user system during 9:00PM and 5:00AM	3.0 1.0
527	A linear collection of data elements where the linear node is given by means of pointer is called	1.primitive list 2.node list 3.linked list 4.array	3.0
528	A major problem with priority scheduling is _____. 529 A minimum state DFA accepting the language $L=\{w \mid w \text{ belongs } \{0,1\}^*\text{ and number of 0s and 1s in } w \text{ are divisible by 3 and 5, respectively}\}$ has	1. Definite blocking 2. Starvation 3. Low priority 4. None of these 1. 15 states 2. 7 states 3. 9 states 4. 8 states	2.0 1.0
530	A network that contains multiple hubs is most likely configured in which topology?	1.Mesh 2.Tree 3.Bus 4.Star	2.0

S.NO.	Questions	Choices	Answers
531	A NFA converted to DFA has more than one final state.	1. True 2. False 3. may be true 4. always true	1.0
532	A one to many relationship (of table A to Table B) is	1.Where each record in table A can have one or more matching records in table B 2.Where each record in table B can have one or more matching records in table A 3.Where each record in Table B is required to have a match in table A 4.Where each record in table A is required to have a match in table B	1.0
533	A packet switching network	1.can reduce the cost of using an information utility 2.allows communications channel to be shared among more than one user 3.can reduce the cost of using an information utility and allows communications channel to be shared among more than one user 4.is free	3.0
534	A page fault occurs	1. when the page is not in the main memory 2. when the page is in the cache memory 3. when the process enters the blocked state 4. when the process is in the ready state	1.0
535	A parameterized constructor with all arguments initialized is same as	1.default constructor 2.parameterized constructor 3.overriding 4.overloading	1.0
536	A point-to-point protocol over ethernet is a network protocol for	1. encapsulating PPP frames inside ethernet frames 2. encapsulating ethernet frames inside PPP frames 3. for security of ethernet frames 4. for security of PPP frames	1.0
537	A primary key, if combined with a foreign key creates	1.Many to many relationships between the tables that connect them 2.Network model between the tables connect them 3.one to many relationship between the tables that connect them 4.Parent child relationship between the tables that connect them	4.0
538	A professional software engineer must:	1. be loyal to the organization 2. build trust from customers 3. socialize with customers 4. be loyal to the organization and build trust from customers	4.0

S.NO.	Questions	Choices	Answers
539	A relation R is said to be in 2NF when it does not have	1. Partial Dependencies 2. Transitive Dependencies 3. Multivalued Attributes 4. Both Partial dependencies and Multivalued Dependencies	1.0
540	A relational database is	1.the same as a flat file database 2.one that consists of two or more tables that are joined in some way 3.one that consists of two or more tables 4.a database that is able to process tables, queries, forms, reports and macros	4.0
541	A ring counter is same as.	1.up-down counter 2.parallel adder 3.shift register 4.ALU	3.0
542	A set of possible data values is called	1. attribute 2. degree 3. domain 4. tuple	4.0
543	A shift register can be used for.	1.Digital delay line 2.Serial to parallel conversion 3.All of these 4.Parallel to serial conversion	4.0
544	A single channel is shared by multiple signals by	1. analog modulation 2. digital modulation 3. multiplexing 4. none of the mentioned	3.0
545	A software package designed to store and manage databases	1.Database 2.DBMS 3.Data Model 4.Data	2.0
546	A stack organized computer has	1.Three-address Instruction 2. Two-address Instruction 3.One-address Instruction 4. Zero-address Instruction	4.0
547	2.0	1. TRUE 2. False 3. 4.	2.0
548	A static data member is given a value	1.Within the class definition 2.Outside the class definition 3.When the program is executed 4.Never	2.0
549	A synchronous sequential circuit is made up of.	1.combinational gates 2.flip-flops 3.both flip-flops and latches 4.both combinational gates and flip-flops	4.0

S.NO.	Questions	Choices	Answers
550	A system uses FIFO policy for page replacement. It has 4 page frames with no pages loaded to begin with. The system first accesses 100 distinct pages in some order and accesses the same 100 pages but now in the reverse order how many page faults will occur?	1. 196 2. 192 3. 197 4. 195	1.0
551	A table can have only one	1. Secondary key 2. Alternate key 3. Unique key 4. Primary key	4.0
552	A tree sturctured file directory system	1. allows easy storage and retrieval of file names 2. is not essential when we have millions of files 3. is a much debated unnecessary feature 4. none of these	1.0
553	A value that has no defined value is expressed in PHP with the following keyword:	1.undefined 2.null 3.Cant Define 4.There is no such concept in PHP	2.0
554	A variable P is called pointer if	1.P contains the address of an element in DATA 2.P contain the DATA and the address of DATA 3.P can store only memory addresses 4.P points to the address of first element in DATA	1.0
555	A variable P is called pointer if	1.P contains the address of an element in DATA 2.P contain the DATA and the address of DATA 3.P can store only memory addresses 4.P points to the address of first element in DATA	1.0
556	A view is a	1. virtual table 2. subset of the table 3. base table 4. super table	1.0
557	A Winchester disk is a	1. Disk stack 2. Removable disk 3. Flexible disk 4. None of these	1.0

S.NO.	Questions	Choices	Answers
558	A complete binary min-heap is made by including each integer in [1;1023] exactly once. The depth of a node in the heap is the length of the path from the root of the heap to that node. Thus, the root is at depth 0. The maximum depth at which integer 9 can appear is	1. 7 2. 8 3. 9 4. 10	2.0
559	Abstraction is	1.Having public members 2.having private member and public function 3.friend function 4.friend classes	2.0
560	2.0	1. developer 2. end users 3. test team 4. systems engineers	2.0
561	Access time is faster for _____.	1. ROM 2. SRAM 3. DRAM 4. ERAM	2.0
562	Additive rule	1.cyan+ magenta+ Yellow= white 2.Red + Green + Blue = white 3.cyan+ Green+ Yellow= white 4.cyan+ magenta+ Yellow= Black	2.0
563	Address line for TRAP is?	1. 0023H 2. 0024H 3. 0033H 4. 0099H	2.0
564	ALE stands for _____	1. address latch enable 2. address level enable 3. address leak enable 4. address leak extension	1.0
565	ALGORITHM HAS THE _____ TO THE PROBLEM IN _____ NUMBER OF STEPS	1.SOLUTION & FINITE 2.PROBLEM & INFINITE 3.SOLUTION & INFINITE 4.PROBLEM & FINITE	1.0
566	All devices/host connect to a central switch in _____ topology.	1.Star 2.Ring 3.Bus 4.Tree	1.0
567	All the modules of the system are integrated and tested as complete system in the case of	1. Bottom up testing 2. Top-down testing 3. Sandwich testing 4. Big-Bang testing	4.0

S.NO.	Questions	Choices	Answers
568	Among simple LR (SLR), canonical LR, and look-ahead LR (LALR), which of the following pairs identify the method that is very easy to implement and the method that is the most powerful, in that order?	1. SLR , LALR 2. CLR , LALR 3. SLR , CLR 4. SLR	3.0
569	An activity is said to be critical if slack time is equal to	1. 0 2. 1 3. 2 4. 3	1.0
570	An advantage of the database approach is	1.Elimination of the data redundancy 2.Ability to associate related data 3.Increase security 4.All of the options	4.0
571	An Entity from an ER diagram can be represented in the relational model by a	1.relation 2.domain 3.function dependency 4.single attribute	1.0
572	An ethernet frame that is less than the IEEE 802.3 minimum length of 64 octets is called	1.short frame 2.runt frame 3.mini frame 4.man frame	2.0
573	An intermediate code form is	1.Postfix notation 2.Syntax trees 3.Three address code 4.Postfix notation, Syntax trees and Three address code	4.0
574	An organization has a class B network and wishes to form subnets for 64 departments. The subnet mask would be:	1. 255.255.0.0 2. 255.255.64.0 3. 255.255.128.0 4. 255.255.252.0	4.0
575	Any code inside a loop that always computes the same value can be moved before the loop. This is called	1.Loop invariant computation 2.Interchange of statements 3.induction variable 4.Algebraic Transformation	1.0
576	Application layer protocol defines	1. types of messages exchanged 2. message format, syntax and semantics 3. rules for when and how processes send and respond to messages 4. all of the mentioned	4.0

S.NO.	Questions	Choices	Answers
577	Architecture of the database can be viewed as	1. two levels 2. four levels 3. three levels 4. one level	3.0
578	Arrange the operators according to their precedence: +, %, ->, =	1. ->, %, +, = 2. =, +, %, -> 3. %, +, =, -> 4. %, ->, =, +	1.0
579	Assume that a table R with 1000 records is to be joined with another table S with 10000 records. What is the maximum number of records that would result in if we join R with S and the equi-join attribute of S is the primary key?	1. 1000 2. 10000 3. 1,00,00,000 4. 11000	1.0
580	Assume that we have constructor functions for both base class and derived class. Now consider the declaration in main(). Base * P = New Derived; in what sequence will the constructor be called ?	1.Derived class constructor followed by Base class constructor. 2.Base class constructor followed by derived class constructor. 3.Base class constructor will not be called. 4.Derived class constructor will not be called.	2.0
581	Assume the base address of CS is 3000H and IP is 2000H. Calculate the memory address.	1.32000H 2.3000H 3.3000H 4.2000H	1.0
582	Assume you would like to sort an array in ascending order by value while preserving key associations. Which of the following PHP sorting functions would you use?	1. ksort() 2. asort() 3. krsort() 4. sort()	2.0
583	Assuming today is , 10 July 2000, what is returned by this statement: SELECT to_char>Last_DAY(sysdate), 'DD-MON-RR' FROM dual;	1. 17-JUL-00 2. 10-JUL-00 3. 31-DEC-00 4. 31-JUL-00	4.0
584	Binary search algorithm can not be applied to	1.sorted linked list 2.sorted binary trees 3.sorted linear array 4.pointer array	4.0
585	Bit stuffing refers to	1.inserting a '0' in user data stream to differentiate it with a flag 2.inserting a '0' in flag data stream to avoid ambiguity 3.appending a nibble to the flag sequence 4.appending a nibble to the user data stream	1.0

S.NO.	Questions	Choices	Answers
586	Bits can be send over guided and unguided media as analog signal using	1. digital modulation 2. amplitude modulation 3. frequency modulation 4. phase modulation	1.0
587	2.0 By following modern system engineering practices simulation of reactive systems is no longer necessary.	1. true 2. false 3. 4.	2.0
588	Cache memory acts between_____.	1. CPU and RAM 2. RAM and ROM 3. CPU and Hard Disk 4. None of these	2.0
589	Calculate the block number in free storage management of files system with number of bits per word is 8, the bit vector is 0001101010101, offset of first 1 bit is 3	1. 59 2. 51 3. 45 4. 53	1.0
590	Calculate the EAT(Effective access time) if 5 micro second is associative look-up time and 0.80 is the hit-ratio in paging hardware with TLB	1. 6.2 micro second 2. 7.8 micro second 3. 2.2 micro second 4. 3.2 micro second	3.0
591	Cartesian product in relational algebra is	1. a Unary operator 2. a Binary operator 3. a Ternary operator 4. not defined	2.0

S.NO.	Questions	Choices	Answers
593	Change cannot be easily accommodated in most software systems, unless the system was designed with change in mind.	1. True 2. False 3. 4.	1.0
594	Changes made to an information system to add the desired but not necessarily the required features is called	1. Preventative maintenance. 2. Adaptive maintenance. 3. Corrective maintenance. 4. Perfective maintenance.	4.0
595	Class _____ IP addresses are used for large organizations	1.A 2.B 3.D 4.C	1.0
596	class n{ int a;}; how much memory the compiler allocates for this class	1.0 2.2 3.depends on compiler 4.4	4.0
597	1.0	1. true 2. false 3. 4.	1.0
598	Classes and components that exhibit functional, layer, or communicational cohesion are relatively easy to implement, test, and maintain.	1. true 2. false 3. 4.	1.0
599	Compile time polymorphism is	1.function overloading 2.template 3.function overriding 4.abstraction	1.0
600	Computers use addressing mode techniques for _____.	1. giving programming versatility to the user by providing facilities as pointers to memory counters for loop control 2. to reduce no. of bits in the field of instruction 3. specifying rules for modifying or interpreting address field of the instruction 4. All of these	4.0
601	Condition testing is a control structure testing technique where the criteria used to design test cases is that they	1. 1.rely on basis path testing 2. exercise the logical conditions in a program module 3. select test paths based on the locations and uses of variables 4. focus on testing the validity of loop constructs	1.0
602	Consider 2 scenarios: C1: For DFA (ϕ , Σ , δ , q_0 , F), if $F = \phi$, then $L = \Sigma^*$ C2: For NFA (ϕ , Σ , δ , q_0 , F), if $F = \phi$, then $L = \Sigma^*$ Where F = Final states set ϕ = Total states set Choose the correct option ?	1. Both are true 2. Both are False 3. C1 is true, C2 is false 4. C1 is false, C2 is true	3.0
603	Consider a binary tree T that has 200 leaf nodes. Then, the number of nodes in T that have exactly two children are _____.	1.199 2.200 3.Any number between 0 and 199 4.Any number between 100 and 200	1.0

S.NO.	Questions	Choices	Answers
604	Consider a DFA over $\Sigma = \{a, b\}$ accepting all strings which have number of a's divisible by 6 and number of b's divisible by 8. What is the minimum number of states that the DFA will have?	1. 8 2. 14 3. 15 4. 48	4.0
605	Consider a hash table with 9 slots. The hash function is $h(k) = k \bmod 9$. The collisions are resolved by chaining. The following 9 keys are inserted in the order: 5, 28, 19, 15, 20, 33, 12, 17, 10. The maximum, minimum, and average chain lengths in the hash table, respectively, are	1.3, 3, and 3 2.3, 0, and 1 3.4, 0, and 1 4.3, 0, and 2	2.0
606	Consider an instance of TCP's Additive Increase Multiplicative Decrease(AIMD) algorithm where the window size at the start of the slow start phase is 2 MSS and the threshold at the start of the first transmission is 8 MSS. Assume that a time out occurs during the fifth transmission. Find the congestion window size at the end of the tenth transmission.	1. 8 MSS 2. 14 MSS 3. 7 MSS 4. 12 MSS	3.0
607	Consider an undirected graph G with 100 nodes. The maximum number of edges to be included is	1.2451 2.4950 3.9900 4.4851	4.0
608	Consider $S \rightarrow SS a$ what is the number of different derivation trees for aaaaa	1. 5 2. 3 3. 14 4. 7	3.0
609	Consider the CFG with $\{S, A, B\}$ as the non-terminal alphabet, $\{a, b\}$ as the terminal alphabet, S as the start symbol and the following set of production rules $\begin{array}{ll} S \rightarrow aB & S \rightarrow bA \\ B \rightarrow b & A \rightarrow a \\ B \rightarrow bS & A \rightarrow aS \\ B \rightarrow aBB & A \rightarrow bAA \end{array}$ Which of the following strings is generated by the grammar?	1. aaaabb 2. aabbba 3. aababb 4. abbbba	3.0
610	Consider the data of previous question. Suppose that the sliding window protocol is used with the sender window size of 2^i where i is the number of bits identified in the previous question and acknowledgments are always piggybacked. After sending 2^i frames, what is the minimum time the sender will have to wait before starting transmission of the next frame? (Identify the closest choice ignoring the frame processing time).	1. 16ms 2. 18ms 3. 20ms 4. 22ms	3.0

S.NO.	Questions	Choices	Answers
611	Consider the DFAs M and N given above. The number of states in a minimal DFA that accepts the language $L(M) \cap L(N)$ is _____.	1. 0 2. 1 3. 2 4. 3	1.0
612	Consider the following array of elements. {89,19,50,17,12,15,2,5,7,11,6,9,100}.The minimum number of interchanges needed to convert it into a max-heap is	1.4 2.2 3.5 4.3	4.0
613	Consider the following C code segment. <pre>for (i = 0, i<n; i++) { for (j=0; j<n; j++) { if (i%2) { x += (4*j + 5*i); y += (7 + 4*j); } } }</pre> Which one of the following is false?	4.0	4.0
614	Consider the following C declaration struct { short s [5]; union { float y; long z; }u; } t; Assume that objects of the type short, float and long occupy 2 bytes, 4 bytes and 8 bytes, respectively. The memory requirement for variable t, ignoring alignment considerations, is	1.10 bytes 2.18 bytes 3.22 bytes 4.14 bytes	2.0
615	Consider the following code segment. <pre>x = u - t; y = x * v; x = y + w; y = t - z; y = x * y;</pre> The minimum number of total variables required to convert the above code segment to static single assignment form is	1. 6 2. 8 3. 9 4. 10	4.0
616	Consider the following code snippet <pre>var a1 = [,,,]; var a2 = new Array(3); 0 in a1 0 in a2</pre> Result of Javascript is:	1. true false 2. false true 3. true true 4. false true	1.0
617	Consider the following code snippet: var a = [1,2,3,4,5]; a.slice(0,3); What is the possible output for the above code snippet?	1.Returns [1,2,3] 2.Returns [4,5] 3.Returns [1,2,3,4] 4.Returns [1,2,3,4,5]	1.0
618	Consider the following code snippet <pre>function oddsums(n) { let total = 0, result=[]; for(let x = 1; x <= n; x++) { let odd = 2*x-1; total += odd; result.push(total); } return result; }</pre> What would be the output if <code>oddsums (5);</code>	1. Returns [1,4,9,16,25] 2. Returns [1,2,3,4,5] 3. Returns [3,6,9,12,15] 4. Returns [1,3,5,7,9]	1.0
619	Consider the following code: var a = []; a.unshift(1); a.unshift(22); a.shift(); a.unshift(3,[4,5]); a.shift(); a.shift(); a.shift(); The final output for the shift() is	1.1 2.[4,5] 3.[3,4,5] 4.Exception	1.0

S.NO.	Questions	Choices	Answers
620	<p>Consider the following function</p> <pre>double f(double x) { if (abs(x*x - 3) < 0.01) return x; else return f(x/2 + 1.5/x); }</pre> <p>Give a value q (to 2 decimals) such that f(q) will return q:_____.</p>	1.1.723 2.1.732 3.0.732 4.1.733	2.0
621	<p>Consider the following javascript code snippet :</p> <pre>var a = []; a.unshift(1); a.unshift(22); a.shift(); a.unshift(3, [4,5]); a.shift(); a.shift(); a.shift();</pre> <p>The final output for the shift() is</p>	1. 1 2. [4,5] 3. [3,4,5] 4. Exception	1.0
622	<p>Consider the following program in C language:</p> <pre>#include main() { int i; int *pi = &i; scanf("%d", pi); printf("%d\n", i+5); }</pre> <p>Which one of the following statements is TRUE?</p>	1. Compilation fails. 2. Execution results in a run-time error. 3. On execution, the value printed is 5 more than the address of variable i 4. On execution, the value printed is 5 more than the integer value entered	4.0
623	<p>Consider the following statements for priority queue :</p> <p>S1 : It is a data structure in which the intrinsic ordering of the elements does determine the result of its basic operations.</p> <p>S2 : The elements of a priority queue may be complex structures that are ordered on one or several fields.</p> <p>Which of the following is correct?</p>	1.Both S1 and S2 are incorrect 2.S1 is correct and S2 is incorrect 3.Both S1 and S2 are correct 4.S1 is incorrect and S2 is correct	4.0
624	<p>Consider the following two sets of LR(1) items of an LR(1) grammar.</p> <pre>X -> c.X, c/d X -> .cX, c/d X -> .d, c/d X -> c..X, \$ X -> .cX, \$ X -> .d, \$</pre> <p>Which of the following statements related to merging of the two sets in the corresponding LALR parser is/are FALSE?</p> <ul style="list-style-type: none"> 1. Cannot be merged since look aheads are different. 2. Can be merged but will result in S-R conflict. 3. Can be merged but will result in R-R conflict. 4. Cannot be merged since goto on c will lead to two different sets. 	1. 1 only 2. 2 only 3. 1 and 4 only 4. 1,2,3,4	4.0
625	<p>Consider the following two sets of LR(1) items of an LR(1) grammar.</p> <pre>X -> c.X, c/d X -> .cX, c/d X -> .d, c/d X -> c..X, \$ X -> .cX, \$ X -> .d, \$</pre> <p>Which of the following statements related to merging of the two sets in the corresponding LALR parser is/are FALSE?</p> <ul style="list-style-type: none"> 1. Cannot be merged since look aheads are different. 2. Can be merged but will result in S-R conflict. 3. Can be merged but will result in R-R conflict. 4. Cannot be merged since goto on c will lead to two different sets. 	1. 1 only 2. 2 only 3. 3 and 4 only 4. 1,2,3,4	4.0
626	<p>Consider the grammar shown below.</p> <pre>S -> C C C -> c C d</pre> <p>The grammar is</p>	1. LL(1) 2. SLR(1) but not LL(1) 3. LALR(1) but not SLR(1) 4. LR(1) but not LALR(1)	1.0

S.NO.	Questions	Choices	Answers
627	<p>Consider the grammar with the following translation rules and E as the start symbol.</p> <pre>E → E1 # T { E.value = E1.value * T.value } T{ E.value = T.value } T → T1 & F { T.value = T1.value + F.value } F{ T.value = F.value } F → num { F.value = num.value }</pre> <p>Compute E.value for the root of the parse tree for the expression: 2 # 3 & 5 # 6 & 4.</p>	1. 200 2. 180 3. 160 4. 40	3.0
628	<p>Consider the grammar</p> <pre>S → (S) a</pre> <p>Let the number of states in SLR(1), LR(1) and LALR(1) parsers for the grammar be n1, n2 and n3 respectively. The following relationship holds good</p>	1. n1< n2< n3 2. n1= n3< n2 3. n1= n2= n3 4. n1> n2> n3	2.0
629	<p>Consider the intermediate code given below:</p> <pre>1. i = 1 2. j = 1 3. t1 = 5 * i 4. t2 = t1 + j 5. t3 = 4 * t2 6. t4 = t3 7. a[4] = -1 8. j = j + 1 9. if j <= 5 goto(3) 10. i = i + 1 11. if i < 5 goto(2)</pre> <p>The number of nodes and edges in the control-flow-graph constructed for the above code, respectively, are</p>	1. 5 and 7 2. 6 and 7 3. 5 and 2 4. 7 and 8	2.0
630	<p>Consider the join of a relation R with relation S. If R has m tuples and S has n tuples, then the maximum size of join is:</p>	1. mn 2. m+n 3. (m+n)/2 4. 2(m+n)	1.0
631	<p>Consider the join of a relation R with relation S. If R has m tuples and S has n tuples, then the maximum size of join is:</p>	1. mn 2. m + n 3. (m + n) / 2 4. 2(m + n)	1.0
632	<p>Consider the regular language $L = (111 + 11111)^*$. The minimum number of states in any DFA accepting this languages is:</p>	1. 3 2. 5 3. 8 4. 9	4.0

S.NO.	Questions	Choices	Answers
633	Consider the relation R1(employee_name, project_name, dependent_name). If {{employee_name -->> project_name}, {employee_name -->> dependent_name}}, what is the highest normal form it satisfies?	1. 2NF 2. 3NF 3. BCNF 4. 4NF	1.0
634	Consider the translation scheme shown below S → T R R → + T {print ('+')}; R ε T → num {print (num.val);} Here num is a token that represents an integer and num.val represents the corresponding integer value. For an input string '9 + 5 + 2', this translation scheme will print	1. 9 + 5 + 2 2. 9 5 + 2 + 3. 9 5 2 + + 4. + + 9 5 2	2.0
635	Consider two strings A ='qpqr' and B = 'pqqrqp'. Let x be the length of the LCS between A and B and let y be the number of such longest common subsequences between A and B. Then x + 10y =	1.42 2.34 3.32 4.30	2.0
636	Count function in SQL returns the number of	1. values 2. distinct values 3. groups 4. columns	1.0
637	CPU Scheduling is the basis of _____ operating system	1. Batch 2. Real Time 3. Multi-programming 4. network	2.0
638	create table student_\$(id number(4), namee varchar2(10)); reponse would be	1. Error 2. Table created 3. Table created with error 4. Table created with data	2.0
639	Creating additional function similar to template function is called	1.implicit specialization 2.explicit specialization 3.abstraction 4.template overriding	4.0
640	Cross-compiler is a compiler	1.which is written in a language that is same as the source language. 2.that runs on one computer but produces object code for different type of computer. 3.that generates object code for its host machine. 4.which is written in a language that is different from the source language.	2.0

S.NO.	Questions	Choices	Answers
641	Cryptanalysis is used	<p>1. to find some insecurity in a cryptographic scheme</p> <p>2. to increase the speed</p> <p>3. to encrypt the data</p> <p>4. none of the mentioned</p>	1.0
642	Cryptographic hash function takes an arbitrary block of data and returns	<p>1. fixed size bit string</p> <p>2. variable size bit string</p> <p>3. both (a) and (b)</p> <p>4. None</p>	1.0
643	Currently there is no single standard file type that can be used to play audio using the audio element consistently on all browsers. Which is the solution that the audio element provides to resolve this conflict?	1.Use JavaScript to determine the web browser in use 2.Use Adobe Flash to play the audio 3.Include multiple audio file formats in the src attribute 4.No Solution	
644	1.0	<p>1. rely on basis path testing</p> <p>2. exercise the logical conditions in a program module</p> <p>3. select test paths based on the locations and uses of variables</p> <p>4. focus on testing the validity of loop constructs</p>	1.0
645	Data independence means	<p>1. data is defined separately and not included in programs.</p> <p>2. programs are not dependent on the physical attributes of data</p> <p>3. programs are not dependent on the logical attributes of data</p> <p>4. programs are not dependent on both physical and logical attributes of data</p>	4.0
646	Data Members of the base class that are marked private:	1.does exist in memory when the object of the derived class is created 2.exist in memory when the object of the derived class is created the derived class 3.are visible in the derived class 4.are directly accessible in the derived class	2.0
647	Data Members of the base class that are marked private:	1.does exist in memory when the object of the derived class is created 2.exist in memory when the object of the derived class is created the derived class 3.are visible in the derived class 4.are directly accessible in the derived class	2.0
648	Data Store Symbol in DFD represents a	<p>1. Physical file</p> <p>2. Data Structure</p> <p>3. Logical file</p> <p>4. ALL</p>	2.0
649	DB, DW and DD directives are used to place data in particular location or to simply allocate space without preassigning anything to space. The DW and DD directores are used to generate	1.full address of labels 2.offsets of full address of labels and variables 3.full address of variables 4.offsets	2.0

S.NO.	Questions	Choices	Answers
650	DCL stands for	<p>1. Data Control Language</p> <p>2. Data Console Language</p> <p>3. Data Console Level</p> <p>4. Data Control Level</p>	1.0
651	Demand paged memory allocation	<p>1. allows the virtual address space to be independent of the physical memory</p> <p>2. allows the virtual address space to be a multiple of the physical memory size</p> <p>3. allows deadlock to be detected in paging schemes</p> <p>4. is present only in Windows NT</p>	1.0
652	Desirable properties of relational database design include	<p>1. All of the options</p> <p>2. minimizing update anomalies</p> <p>3. minimizing redundancy</p> <p>4. minimizing insertion/deletion anomalies</p>	1.0
653	Direction flag is used with	<p>1. String instructions</p> <p>2. Stack instructions.</p> <p>3. Arithmetic instructions</p> <p>4. Branch instructions</p>	1.0
654	Divide and conquer mechanism is used in	<p>1. selection sort</p> <p>2. merge sort</p> <p>3. quick and merge sorts</p> <p>4. indexed sequential search</p>	3.0
655	DML is provided for	<p>1. Description of logical structure of database.</p> <p>2. Addition of new structures in the database system.</p> <p>3. Manipulation & processing of database.</p> <p>4. Definition of physical structure of database system.</p>	3.0
656	Drop SQL clause	<p>1. Drops only the values from the table</p> <p>2. drops structure of the table along with values</p> <p>3. None of the options</p> <p>4. changes the structure of the table</p>	2.0
657	Duality principle is used when SE is	<p>1. square</p> <p>2. symmetric</p> <p>3. asymmetric</p> <p>4. translated</p>	2.0

S.NO.	Questions	Choices	Answers
658	1.0	<p>1. applications, data, technology infrastructure</p> <p>2. communications, organization, financial infrastructure</p> <p>3. network, database, reporting structure</p> <p>4. systems, requirements, data structure</p>	1.0
659	Each counter of IC 8254 can work in -----differnt modes of operation	<p>1.6</p> <p>2.5</p> <p>3.4</p> <p>4.3</p>	1.0
660	ElGamal encryption system is	<p>1. symmetric key encryption algorithm</p> <p>2. asymmetric key encryption algorithm</p> <p>3. not an encryption algorithm</p> <p>4. none of the mentioned</p>	2.0
661	EPROM is generally erased by using	<p>1. Ultraviolet rays</p> <p>2. infrared rays</p> <p>3. 12 V electrical pulse</p> <p>4. 24 V electrical pulse</p>	1.0
662	Ethernet in metropolitan area network (MAN) can be used as	<p>1. pure ethernet</p> <p>2. ethernet over SDH</p> <p>3. ethernet over MPLS</p> <p>4. combination of all of the above mentioned</p>	4.0
663	3.0	<p>1. reduce the granularity of the plan</p> <p>2. analyze requirements in depth</p> <p>3. get all team members to "sign up" to the plan</p> <p>4. begin design</p>	3.0
664	2.0	<p>1. Are not iterative in nature</p> <p>2. Can easily accommodate product requirements changes</p> <p>3. Generally produce throwaway systems</p> <p>4. Are not specific to applications</p>	2.0

S.NO.	Questions	Choices	Answers
665	External Fragmentation of the file system	1. can be avoided by paging 2. occurs only if the file system is used improperly 3. can be removed by compaction 4. can be avoided by Segmentation	4.0
666	Find the output <pre>#include <stdio.h> int main() { int tally=0; for(;;) { if(tally==10) break; printf("%d ",++tally); } return 0; }</pre>	1. 0 1 2 3 4 5 6 7 8 9 10 2. 0 1 2 3 ... infinite times 3. 1 2 3 4 5 6 7 8 9 10 4. 1 2 3 4 5 6 7 8 9	3.0
667	Find the output <pre>#include <stdio.h> int main() { int x=65; const unsigned char c=(int)x; printf("%c\n",c); return 0; }</pre>	1. Error 2. 65 3. A 4. NULL	3.0
668	Find the output <pre>#include <stdio.h> struct sample { int a=0; char b='A'; float c=10.5; }; int main() { struct sample s; printf("%d,%c,%f",s.a,s.b,s.c); return 0; }</pre>	1. Error 2.0,A,10.5 0,A,10.50000 3. 4. No Error, No Output	1.0
669	Find the output: <pre>#include <stdio.h> int main() { int a=100; printf("%d\n"+1,a); printf("Value is = %d"+3,a); return 0; }</pre>	1. Error 2. 101, Value is = 103 3. d ue is = 100 4. 100 100	3.0

S.NO.	Questions	Choices	Answers
670	<p>Find the output:</p> <pre>#include <stdio.h> int main() { int a=23; ; ;printf("%d",a); ; return 0; }</pre>	1. 2. Error 3. ;23; 4. ;23	1.0
671	<p>Find the output:</p> <pre>#include <stdio.h> void main() { const char var='A'; ++var; printf("%c",var); }</pre>	1. B 2. A 3. ERROR 4. 66	3.0
672	<p>FIND THE OUTPUT:</p> <pre>#include <stdio.h> void main() { int x=10; x+=(x++)+(++x)+x; printf("%d",x); }</pre>	1. 44 2. 45 3. 46 4. 47	2.0
673	<p>Find the output:</p> <pre>#include <stdio.h> void main() { int x=(20 40) && (10); printf("x= %d",x); }</pre>	1. x= 60 2. x= 70 3. x= 0 4. x= 1	4.0
674	<p>Find the output:</p> <pre>#include <stdio.h> void main() { char var=10; printf("var is = %d",++var++); }</pre>	1. ERROR: can not modify var. 2. ERROR: L-Value required 3. 12 4. ERROR: Expression syntax	2.0
675	First derivative approximation says that values of constant intensities must be	1.1 2.0 3.positive 4.negative	2.0
676	Flip-flop excitation tables shows that	1.For the given PS and NS what will be the inputs 2.For the given PS and NS what will be the outputs 3.For the given PS and NS what will be the type of flip-flops 4.For the given PS and NS what will be the values of NS and PS respectively	4.0
677	Following can be used to implement a SOP function without changing it into minterms	1.MUX 2.PLA 3.ROM 4.DeMUX	4.0

S.NO.	Questions	Choices	Answers
678	For a well understood data processing application it is best to use	<p>1. The waterfall model</p> <p>2. prototyping model</p> <p>3. the evolutionary model</p> <p>4. the spiral model</p>	1.0
679	For purposes of behavior modeling a state is any	<p>1.</p> <p>3.0</p> <p>2.</p> <p>data object hierarchy.</p> <p>3. observable mode of behavior.</p> <p>4. well defined process.</p>	3.0
680	Foreign Key is	<p>1. A field in a table that matches a key field in another table</p> <p>2. A field in a table that contains data that is also contained elsewhere in another table</p> <p>3. A key that consists of more than one field</p> <p>4. A field in a table that has the same name as a key field in another table</p>	1.0
681	Frames of 1000 bits are sent over a 10^6 bps duplex link between two hosts. The propagation time is 25ms. Frames are to be transmitted into this link to maximally pack them in transit (within the link). What is the minimum number of bits, i will be required to represent the sequence numbers distinctly? Assume that no time gap needs to be given between transmission of two frames.	<p>1. i=2</p> <p>2. i=3</p> <p>3. i=4</p> <p>4. i=5</p>	4.0
682	FTP server listens for connection on port number	<p>1.</p> <p>20</p> <p>2. 21</p> <p>3.</p> <p>22</p> <p>4.</p> <p>23</p>	2.0
683	Functions that combines to produce $f(x,y)$	<p>1.illumination and frequency 2.intensity and reflectance 3.illumination and radiance 4.illumination and reflectance</p>	4.0
684	Generally Dynamic RAM is used as main memory in a computer system as it_____.	<p>1. Consumes less power</p> <p>2. has higher speed</p> <p>3. has lower cell density</p> <p>4. needs refreshing circuitry</p>	2.0

S.NO.	Questions	Choices	Answers
685	Generic process models are:	1. waterfall, component-based, iterative 2. waterfall, structural, component-based 3. sequential, waterfall, iterative 4. component-based, object-oriented, iterative	4.0
686	Given a comma-separated list of values in a string, which function from the given list can create an array of each individual value with a single call in PHP?	1. strstr() 2. extract 3. explode() 4. strtok()	3.0
687	Given a hash table T with 25 slots that stores 2000 elements, the load factor α for T is	1.80 2.0.0125 3.8.000 4.1.25	2.0
688	Given a variable \$email containing the string user@example.com, which of the following PHP statements would extract the string example.com?	1. substr(\$email, strpos(\$email, "@")); 2. strstr(\$email, "@"); 3. strchr(\$email, "@"); 4. substr(\$email, strpos(\$email, "@") + 1);	4.0
689	Given an array that represents elements of arithmetic progression in order. It is also given that one element is missing in the progression, the worst case time complexity to find the missing element efficiently is:	1.theta(n) 2.theta(nLogn) 3.theta(Logn) 4.theta(1)	3.0
690	Given CF=0, BX=00111011 01110101 ROR BX,1. The result is	1.CF=1 BX=10011101 10111010 2.CF=1 BX=10100111 01101110 3.CF=0 BX=01001110 11011101 4.CF=0 BX=01010011 10110111	1.0
691	Given the basic ER and relational models, which of the following is INCORRECT?	1. An attributes of an entity can have more than one value 2. An attribute of an entity can be composite 3. In a row of a relational table, an attribute can have more than one value 4. In a row of a relational table, an attribute can have exactly one value or a NULL value	3.0
692	Given the Code segment CS = 1000H and the offset BX=0050H. Calculated physical address is ---	1.10000H 2.10050H 3.11050H 4.11000H	2.0
693	Given the Extra segment ES = 52B9H and the offset BX=D470H. Calculated physical address is ---	1.60000H 2.70000H 3.11000H 4.11050H	4.0
694	Given the frequency f=1.5MHZ for 8253 timer the value of time period T is	1.10ms 2.0.66us 3.1ms 4.100ms	2.0
695	Given the functional dependencies, {AB \rightarrow CDE and A \rightarrow E}, for relation schema R = (A,B,C,D,E) we can infer the following:	1. A is a key for R 2. BE is a key for R 3. AB is a key for R 4. B is a key for R	3.0

S.NO.	Questions	Choices	Answers
696	Given the language $L = \{ab, aa, baa\}$, which of the following strings are in L^* ? 1) abaabaaaabaa 2) aaaabaaaa 3) baaaaaaaaab 4) baaaaabaa	1. 1, 2 and 3 2. 1, 2 and 4 3. 1, 3 and 4 4. 2, 3 and 4	2.0
697	Grant and revoke are statements.	1. DDL 2. TCL 3. DCL 4. DML	3.0
698	High speed ethernet works on	1. coaxial cable 2. twisted pair cable 3. optical fiber 4. none of the mentioned	3.0
699	How can we count the number of elements in an array?	1.Using sizeof() 2.count() 3.Writing a user defined function and using array_search() 4.using sizeof() and count()	4.0
700	How can you specify default text in an input field?	1.Using JavaScript 2.Using the 'text' attribute 3.Using the 'placeholder' element 4.Using the 'placeholder' attribute	4.0
701	How do I create PHP arrays in a HTML ?	1.< input name= MyArray[] /> 2.< input ="MyArray[]" /> 3.< input name="MyArray[]" /> 4.< input MyArray[] />	3.0
702	How do substring() and substr() differ?	1.One is not a method of the String object. 2.substr() takes three arguments, substring() only two. 3.Only one accepts a desired string length as an argument. 4.Besides the spelling, nothing.	3.0
703	How do we access the value of 'd' later? \$a = array('a', 3 => 'b', 1 => 'c', 'd');	1.\$a[0] 2.\$a[1] 3.\$a[2] 4.\$a[4]	4.0
704	How do we prevent margins, borders and padding from overlapping?	1.Setting zero paddings and margins 2.By displaying our list as block elements 3.Using table cells 4.By displaying our list as inline elements	2.0
705	How do we submit form data without a Sumbit button?	1.Using header() function 2.Using Javascript 3.Using fdf_set_submit_form_action() fucntion 4.using header() and javascript	4.0
706	How do you check queue is full in array implementation	1.if(rear==size) 2.if(front==size) 3.if(rear==1) 4.if(front==1)	1.0
707	How do you get information from a form that is submitted using the "get" method?	1.Request.QueryString; 2.\$_GET[]; 3.Request.Form; 4.\$_POST[];	2.0
708	How is a J-K flip-flop made to toggle?	1.J = 0, K = 0 2.J = 0, K = 1 3.J = 1, K = 0 4.J = 1, K = 1	4.0
709	How many bits are required to store one BCD digit?	1.1 2.2 3.3 4.4	4.0
710	How many diagrams are here in Unified Modelling Language?	1. six 2. seven 3. eight 4. nine	4.0
711	How many different states does a 3-bit asynchronous counter have?	1.2 2.4 3.8 4.16	3.0
712	How many flip-flops are required to construct a mod10 counter?	1.10 2.8 3.5 4.4	4.0
713	How many flip-flops are required to make a MOD-32 binary counter?	1.3 2.4 3.5 4.6	3.0
714	How many instances of an abstract class can be created?	1.13 2.5 3.1 4.0	4.0

S.NO.	Questions	Choices	Answers
715	How many minimum states are required in a DFA to find whether a given binary string has odd number of 0's or not, there can be any number of 1's.	1. 1 2. 2 3. 3 4. 4	2.0
716	How many nodes in a tree have no ancestors.	1.2 2.n 3.1 4.0	3.0
717	How many operating modes are available in 8253A.	1.1 2.2 3.6 4.3	3.0
718	How many transistors does the 8086 have	1.29,000 2.10,000 3.129,000 4.110,000	1.0
719	How to create a Date object in JavaScript?	1.dateObjectName = new Date([parameters]) 2.dateObjectName.new Date([parameters]) 3.dateObjectName := new Date([parameters]) 4.dateObjectName Date([parameters])	1.0
720	How to create a memory without a name during the execution of the program?	1.malloc() 2.Queue 3.stack 4.list	1.0
721	How will you free the allocated memory ?	1.remove(var-name); 2.free(var-name); 3.delete(var-name); 4.dalloc(var-name);	2.0
722	How will you handle the overflow condition of a linked queue through code(note: new_node is a newly created node in a memory)	1.if(rear==size) 2.if(new_node==0) 3.if(front==size) 4.if(new_node==null)	1.0
723	HTTP client requests by establishing a _____ connection to a particular port on the server.	1. user datagram protocol 2. transmission control protocol 3. broader gateway protocol 4. RIP	2.0
724	IC 8237 has -----many pins	1. 40 2. 28 3. 24 4. 20	1.0
725	IC 8257 has -----many channels for data transfer	1. 1 2. 2 3. 3 4. 4	4.0
726	Identify different segments in a program	1.only code segment 2.data and code segment 3.only data segment 4.data, code, stack and extra segments	4.0
727	Identify the accurate control word for operate counter 0, Read/Write LSB only, Mode 2, BCD countdown.	1.00010111B 2.0001X111B 3.00010101B 4.00110111B	2.0
728	Identify the addressing mode for the instruction MOV AH,47H	1.Immediate addressing mode 2.Direct addressing mode 3.Based addressing mode 4.Indirect addressing mode	2.0
729	Identify the proper data direction and modes of operation of the 8255 ports if the control word written into it is 9BH.	1.Port A as output 2.Port C lower as output 3.Port C upper as input 4.Port B as output	3.0

S.NO.	Questions	Choices	Answers
730	If a class B network on the Internet has a subnet mask of 255.255.248.0, what is the maximum number of hosts per subnet?	1. 1024 2. 1023 3. 2046 4. 2047	3.0
731	If a class C is derived from class B, which is derived from class A, all through public inheritance, then a class C member function can access	1.protected and public data only in C and B 2.protected and public data only in C. 3.private data in A and B. 4.protected data in A and B.	4.0
732	If a constructor function is defined in private section of a class, then	1.The object cannot be created 2.Only its member functions and friends may declare objects of the class 3.Only its friends may declare objects of the class 4.Only its member functions may declare objects of the class	2.0
733	If AL= 7FH and instruction ADD AL,1 is given, specify the contents of the six status flag	1.CF=0,PF=0,AF=1,ZF=0,SF=1,OF=1 2.CF=0,PF=1,AF=0,ZF=0,SF=1,OF=1 3.CF=0,PF=1,AF=1,ZF=0,SF=1,OF=1 4.CF=0,PF=0,AF=1,ZF=0,SF=1,OF=0	4.0
734	If AL=C0H, Determine the content of the register AL after SAL AL,1 instruction is executed.	1.E0H 2.80H 3.0CH 4.0EH	2.0
735	If all page frames are initially empty, and a process is allocated 3 page frames in real memory and references its pages in the order 1 2 3 2 4 5 2 3 2 4 1 and the page replacement is FIFO, the total number of page faults caused by the process will be _____	1. 10 2. 7 3. 4. 5. 6. 7. 8. 9.	4.0
736	If all tasks must be executed in the same time-span, what type of cohesion is being exhibited?	1. Functional Cohesion 2. Temporal Cohesion 3. Functional Cohesion 4. Sequential Cohesion	2.0
737	If class A is friend of class B and if class B is friend of class C, which of the following is true?	1.Class C is friend of Class A 2.Class A is friend of Class C 3.Class A and Class C don't have any friend relationship 4.Class A and Class C are mutual friends	4.0
738	If every requirement stated in the Software Requirement Specification (SRS) has only one interpretation, SRS is said to be	1. correct. 2. unambiguous. 3. consistent. 4. verifiable.	2.0
739	If inspected in a browser, what will be the total width of the div in the following code snippet? <pre>#container { width: 600px; border: 2px solid #CCCCCC; padding: 30px 20px; margin: 20px 10px 40px 10px; }</pre>	1.664px 2.660px 3.644px 4.600px	1.0
740	If L and L' are recursively enumerable, then L is	1. regular 2. context-free 3. context-sensitive 4. recursive	4.0

S.NO.	Questions	Choices	Answers
741	If M1 machine recognizing L with n states, then M2 recognizing L^* constructed Using Thompson construction will have ----- states.	1. n 2. n+1 3. n+2 4. n-1	2.0
742	If p and q are assigned the values 2 and 3 respectively then the statement P = q++	1.assigns a value 5 to p 2.assigns a value 3 to p 3.gives an error message 4.assigns a value 4 to p	2.0
743	If para1 is the DOM object for a paragraph, what is the correct syntax to change the text within the paragraph?	1."New Text"? 2.para1.value="New Text"; 3.para1.firstChild.nodeValue= "New Text"; 4.para1.nodeValue="New Text";	2.0
744	If the class name is X, what is the type of its "this" pointer?	1.X* 2.const X* const 3.X& 4.X* const	3.0
745	If the disk size is 2^{30} bytes and block size is 2^{12} bytes then find how many such blocks are there?	1. 2^{42} 2. 2^{18} 3. 2^{360} 4. 2^{30}	2.0
746	If the PIC outputs the type number of C8H, the CPU will retrieve the vector stored in the address -----	1.00320H - 00323H 2.00324H - 00327H 3.00223H - 00226H 4.00140H - 00143H	
747	If the size of logical address space is 2^m , and a page size is 2^n addressing units, then the high order _____ bits of a logical address designate the page number, and the _____ low order bits designate the page offset.	1. m,n 2. n,m 3. m-n,m 4. m-n,n	4.0
748	If there are n relations how many number of join conditions has to be applied to retrieve the data from all the n relations?	1. $N+1$ 2. N 3. $N-1$ 4. A Number in the range 0 to N.	3.0
749	If we create a file by 'ifstream', then the default mode of the file is _____	1.ios :: out 2.ios :: in 3.ios :: app 4.ios :: binary	1.0
750	If X->Y and X->Z then	1. Y->Z 2. Z->Y 3. X->YZ 4. Doesn't hold	3.0

S.NO.	Questions	Choices	Answers
751	If $x \rightarrow y$ then $y \rightarrow x$. This statement is	1. True 2. False 3. Can't Say 4. Doesn't hold	3.0
752	IF Y is a subset of X then	1. $X \rightarrow Y$ 2. $Y \rightarrow X$ 3. $Y \rightarrow \rightarrow X$ 4. X is a sub set of Y	2.0
753	If you have an empty queue and you insert characters 'r', 'a', 't' (in this order only), what is the order of the characters when you dequeue all the elements?	1.'r', 'a', 't' 2.'t', 'a', 'r' 3.'r', 't', 'a' 4.'t', 'r', 'a'	1.0
754	IMUL source is a signed _____	1. multiplication 2. addition 3. subtraction 4. division	1.0
755	In 8086 microprocessor one of the following statements is not true	1.Coprocessor is interfaced in MAX mode 2.Coprocessor is interfaced in MIN mode 3.I/O can be interfaced in MAX / MIN mode 4.Supports pipelining	2.0
756	In 8086 microprocessor the following has the highest priority among all type interrupts	1.TYPE 255 2.DIV 0 3.NMI 4.OVER FLOW	3.0
757	In 8086, Example for Non maskable interrupts are _____.	1. TRAP 2. RST6.5 3. INTR 4. RST6.6	1.0
758	In a bottom-up evaluation of a syntax directed definition, inherited attributes can	1. always be evaluated 2. be evaluated only if the definition is L-attributed 3. be evaluated only if the definition has synthesized attributes 4. never be evaluated	2.0
759	In a circular linked list	1.components are arranged hierarchically 2.there is no beginning and no end 3.forward and backward traversal within the list is permitted 4.components are arranged from top to bottom	2.0

S.NO.	Questions	Choices	Answers
760	In a compiler, keywords of a language are recognized during	1. parsing of the program 2. the code generation 3. the lexical analysis of the program 4. dataflow analysis	3.0
761	In a conceptual model for a university, which of the following could most appropriately be represented via a recursive relationship?	1. Student credit hours 2. Course prerequisites 3. Parking sticker assignments 4. Final exam schedules	2.0
762	In a connected graph, a bridge is an edge whose removal disconnects a graph. Which one of the following statements is True?	1.A tree has no bridge 2.A bridge cannot be part of a simple cycle 3.Every edge of a clique with size>=3 is a bridge (A clique is any complete subgraph of a graph) 4.A graph with bridges cannot have a cycle	4.0
763	In a DMA write operation the data is transferred	1. from I/O to memory 2. from memory to I/O 3. from memory to I/O 4. from I/O to I/O	1.0
764	In a microprocessor, the service routine for a certain interrupt starts from a fixed location of memory which cannot be externally set, but the interrupt can be delayed or rejected. Such an interrupt is	1.maskable and non-vectorable 2.non-maskable and vectored 3.maskable and vectored 4.non-maskable and non-vectorable	3.0
765	In a network of LANs connected by bridges, packets are sent from one LAN to another through intermediate bridges. Since more than one path may exist between two LANs, packets may have to be routed through multiple bridges. Why is the spanning tree algorithm used for bridge-routing?	1. For shortest path routing between LANs 2. For avoiding loops in the routing paths 3. For fault tolerance 4. For minimizing collisions	2.0
766	In a syntax directed translation schema ,if value of an attribute of a node is function of the values of the attributes of its children , then it is called	1.Inherited attributes 2.Synthesized attributes 3.Canonical attributes 4.Derived attributes	2.0
767	In a token ring network the transmission speed is 10^7 bps and the propagation speed is 200 metres/micro second. The 1-bit delay in this network is equivalent to:	1. 500 metres of cable. 2. 200 metres of cable. 3. 20 metres of cable. 4. 50 metres of cable.	3.0

S.NO.	Questions	Choices	Answers
768	In a virtual memory environment	<p>1. segmentation and page tables are stored in the cache and do not add any substantial overhead</p> <p>2. slow down the computer system considerable</p> <p>3. segmentation and page tables are stored in the RAM</p> <p>4. only page table is stored in cache</p>	1.0
769	In access lists and groups which one of the following is correct for the 'RWX' notation of the order 'group, owner, public'	<p>1. 111110001</p> <p>2. 110111001</p> <p>3. 001111110</p> <p>4. 001110111</p>	2.0
770	In an array representation of binary tree, the left child of i th node is located at	1. $2.i+2$	4.0
771	In an array representation of binary tree, the right child of i th node is located at	1. $(i-2)/2$	3.0
772	In an E-R diagram an entity set is represent by a	<p>1. rectangle</p> <p>2. ellipse</p> <p>3. diamond box</p> <p>4. circle</p>	1.0
773	In an E-R diagram attributes are represented by	<p>1. rectangle</p> <p>2. square</p> <p>3. ellipse</p> <p>4. triangle</p>	3.0
774	In any undirected graph, the sum of the degrees of all nodes is:	1. is twice number of edges	1.0
775	In Assembly language programming, minimum number of operands required for an instruction is/are	<p>1. Zero</p> <p>2. One</p> <p>3. Two</p> <p>4. Three</p>	1.0
776	In asynchronous serial communication the physical layer provides	<p>1.start and stop signalling</p> <p>2.flow control</p> <p>3.both (a) and (b)</p> <p>4.none of the mentioned</p>	3.0
777	In binary heap, whenever the root is removed then the rightmost element of last level is replaced by the root. Why?	<p>1.To make sure that it is still complete binary tree</p> <p>2.It is the easiest possible way</p> <p>3.Because left and right subtree might be missing</p> <p>4.maximum value is contained by the root node</p>	1.0

S.NO.	Questions	Choices	Answers
778	In case of entity integrity, the primary key may be	1.not Null 2.Null 3.a foreign key 4.any value	1.0
779	3.0	1. cannot be a member of the software team 2. cannot be a customer 3. controls and facilitates the process 4. must be an outsider	2.0
780	In context of OSI or TCP/IP computer network models, which of the following is false?	1.Major difference between LAN and WAN is that the later uses switching element 2.Network layer is connection oriented 3.A repeater is used just to forward bits from one network to another one 4.A gateway is used to connect incompatible networks	2.0
781	In cryptography, the order of the letters in a message is rearranged by	1. transposition ciphers 2. substitution ciphers 3. both (a) and (b) 4. none of the mentioned	1.0
782	In Ethernet when Manchester encoding is used, the bit rate is:	1. Half the baud rate. 2. Twice the baud rate. 3. Same as the baud rate. 4. Grows exponentially	1.0
783	In FTP protocol, client contacts server using ____ as the transport protocol.	1. transmission control protocol 2. user datagram protocol 3. datagram congestion control protocol 4. stream control transmission protocol	1.0
784	In general tree to binary tree conversion, the two links of the binary tree node points to	1.two leaf nodes in the general tree 2.its right child and sibling in the general tree 3.its left child and sibling in the general tree 4.its left and right child in the general tree	4.0
785	In HTTP pipelining	1. multiple HTTP requests are sent on a single TCP connection without waiting for the corresponding responses 2. multiple HTTP requests can not be sent on a single TCP connection 3. multiple HTTP requests are sent in a queue on a single TCP connection 4. none of the mentioned	1.0

S.NO.	Questions	Choices	Answers
786	In interactive environments such as time-sharing systems, the primary requirement is to provide reasonably good response time and in general, to share system resources equitably. In such situations, the scheduling algorithm that is most popularly applied is _____.	1. Shortest Remaining Time Next (SRTN) Scheduling 2. Priorities Based Preemptive Scheduling 3. Round Robin Scheduling 4. First Come First Serve	3.0
787	In javascript, RegExp Object Method test() is used to search a string and returns _____	1.true or false 2.found value 3.index 4.Matched or not matched	1.0
788	In linear search algorithm the Worst case occurs when	1.The item is somewhere in the middle of the array 2.The item is not in the array at all 3.The item is the last element in the array 4.The item is the last element in the array or is not there at all	4.0
789	In max mode, control bus signal So,S1 and S2 are sent out in _____ form	1. shared 2. decoded 3. encoded 4. unshared	3.0
790	In mysql_fetch_array(),if two or more columns of the result have the same field names, what action is taken?	1. the first column will take precedence 2. the column is skipped 3. the last column will take precedence 4. an error is thrown.	3.0
791	In operator precedence parsing , precedence relations are defoned	1.To delimit the handle 2.For all pair of terminals 3.For all pair of non terminals 4.Only for a certain pair of terminals	3.0
792	In PHP, array values are keyed by _____ values (called indexed arrays) or using _____ values (called associative arrays). Of course, these key methods can be combined as well.	1. Float, string 2. Positive number, negative number 3. String, Boolean 4. Integer, String	4.0
793	In PHP, which of the following function is used to insert content of one php file into another php file before server executes it	1.include[] 2.#include() 3.include() 4.#include{}	3.0
794	In Priority Scheduling a priority number (integer) is associated with each process. The CPU is allocated to the process with the highest priority (smallest integer = highest priority). The problem of, Starvation ? low priority processes may never execute, is resolved by _____.	1. Terminating the process. 2. Aging 3. Mutual Exclusion 4. Semaphore	2.0
795	In software engineering development, if there are no applicable theories, people often use adhoc approach.	1. True 2. False 3. 4.	1.0

S.NO.	Questions	Choices	Answers
796	2.0	1. true 2. false 3. 4.	1.0
797	In the absolute addressing mode	1. The operand is inside the instruction 2. The address of the operand is inside the instruction 3. The register containing the address of the operand is specified inside the instruction 4. The location of the operand is implicit	1.0
798	In the architecture of a database system external level is the	1.view level 2.conceptual level 3.logical level 4.physical level	1.0
799	In the context of abstract-syntax-tree (AST) and control-flow-graph (CFG), which one of the following is True?	1.In both AST and CFG, let node N2 be the successor of node N1. In the input program, the code corresponding to N2 is present after the code corresponding to N1 2.For any input program, neither AST nor CFG will contain a cycle 3. Each node in AST and CFG corresponds to at most one statement in the input program 4.The maximum number of successors of a node in an AST and a CFG depends on the input program	4.0
800	In the context of object-oriented software engineering a component contains	4.0	4.0
801	In the following code snippet, what is the correct value of the left margin? margin: 10px 5px 20px 15px;	1.10px 2.5px 3.20px 4.15px	4.0
802	In the multi-programming environment, the main memory consisting of _____ number of process.	1. Greater than 100 2. only one 3. Greater than 50 4. More than one	4.0
803	In the network HTTP resources are located by	1. uniform resource identifier 2. unique resource locator 3. unique resource identifier 4. unique resource identifier	1.0
804	In the operation read_item(x), what does x mean?	1. a file 2. a record 3. a disk block 4. all of the options	4.0

S.NO.	Questions	Choices	Answers
805	In the running state	<p>1. only the process which has control of the processor is found</p> <p>2. all the processes waiting for I/O to be completed are found</p> <p>3. all the processes waiting for the processor are found</p> <p>4. everything in these options are found</p>	1.0
806	In the slow start phase of the TCP congestion control algorithm, the size of the congestion window	<p>1. does not increase</p> <p>2. increases linearly</p> <p>3. increases quadratically</p> <p>4. increases exponentially</p>	4.0
807	In the spiral model ‘risk analysis’ is performed	<p>1. In the first loop</p> <p>2. in the first and second loop</p> <p>3. In every loop</p> <p>4. before using spiral model</p>	3.0
808	In tunnel mode IPsec protects the	<p>1. entire IP packet</p> <p>2. IP header</p> <p>3. IP payload</p> <p>4. none of the mentioned</p>	1.0
809	In what type of coupling, the complete data structure is passed from one module to another?	<p>1. Control Coupling</p> <p>2. Stamp Coupling</p> <p>3. External Coupling</p> <p>4. Content Coupling</p>	2.0
810	In which addressing mode the operand is given explicitly in the instruction	<p>1. Absolute</p> <p>2. Immediate</p> <p>3. Indirect</p> <p>4. Direct</p>	2.0
811	In which case is it mandatory to provide a destructor in a class?	<p>1. Class for which copy constructor is defined</p> <p>2. Class for which two or more than two objects will be created</p> <p>3. Almost in every class</p> <p>4. Class whose objects will be created dynamically</p>	4.0

S.NO.	Questions	Choices	Answers
812	In which mode FTP, the client initiates both the control and data connections.	1. active mode 2. passive mode 3. active mode and passive mode 4. none of the mentioned	2.0
813	In which topology, if there are n devices in a network, each device has n-1 ports for cables?	1.Mesh 2.Star 3.Ring 4.Bus	1.0
814	In which year, 8086 was introduced?	1. 1978 2. 1979 3. 1977 4. 1981	1.0
815	2.0	1. TRUE 2. FALSE 3. 4.	1.0
816	In wireless distribution system	1. multiple access point are inter-connected with each other 2. there is no access point 3. only one access point exists 4. none of the mentioned	1.0
817	In wireless network an extended service set is a set of	1. connected basic service sets 2. all stations 3. all access points 4. all nodes	1.0
818	Information retrieval is faster from	1. Floppy disk 2. Magnetic tape 3. Hard disk 4. CD	3.0

S.NO.	Questions	Choices	Answers
819	Insert into Emp(101, 'XXX') gives the following error	1. missing Select keyword 2. Missing Values 3. both of the errors 4. No of the errors	2.0
820	<pre>int main() { int x,y; x=(100,200); y=100,200; printf("x=%d,y=%d",x,y); return 0; }</pre> Find the output	1. x=100,y=200 2. x=200,y=200 3. ERROR 4. x=200,y=100	4.0
821	Interaction Diagram is a combined term for	1. Sequence Diagram + Collaboration Diagram 2. Activity Diagram + State Chart Diagram 3. Deployment Diagram + Collaboration Diagram 4. None	1.0
822	Internet Explorer uses property to create transparent images.	1.-moz-opacity:x 2.filter: alpha(opacity=x) 3.filter: beta(opacity=x) 4.-IE-opacity	2.0
823	Interpolation search is an improved variant of binary search. It is necessary for this search algorithm to work that data collection should be	1.in sorted form and equally distributed 2.in sorted form and but not equally distributed 3.equally distributed but not sorted 4.unsorted and not evenly distributed	1.0
824	IPSec is designed to provide the security at the	1. transport layer 2. network layer 3. application layer 4. session layer	2.0
825	It is difficult to design asynchronous sequential circuit because.	1.External clock is to be provided 2.It is using Flip flops 3.It is more complex 4.Generally they involve stability problem	4.0
826	It is ok to have a single ideal approach to develop a software.	1. True 2. False 3. 4.	2.0
827	It would be ideal if all of computer science theories can be used in software engineering.	1. False 2. True 3. 4.	2.0
828	JavaScript RegExp Object has modifier 'i' to _____	1.Perform case-sensitive matching 2.Perform case-insensitive matching 3.Perform both case-sensitive & case-insensitive matching 4.None of the these	2.0

S.NO.	Questions	Choices	Answers
829	Join is equal to	1. Cartesian Product 2. Combination of Union and Cartesian product 3. Combination of selection and Cartesian product 4. Combination of intersection and Cartesian product	3.0
830	K-map follow following code for marking adjacent variables	1.84-2-1 2.Gray Code 3.2421 4.8421	2.0
831	Let G be a weighted connected undirected graph with distinct positive edge weights. If every edge weight is increased by the same value, then which of the following statements is/are TRUE ? P: Minimum spanning tree of G does not change. Q: Shortest path between any pair of vertices does not change	1. P Only 2. Q Only 3. Neither P nor Q 4. Both P and Q	1.0
832	Let E1 and E2 be two entities in an E/R diagram with simple single-valued attributes. R1 and R2 are two relationships between E1 and E2, where R1 is one-to-many and R2 is many-to-many. R1 and R2 do not have any attributes of their own. What is the minimum number of tables required to represent this situation in the relational model?	1. 2. 3. 4. 5.	2.0
833	Let G be a graph with n vertices and m edges. What is the tightest upper bound on the running time on Depth First Search of G? Assume that the graph is represented using adjacency matrix	1.O(n) 2.O(m+n) 3.O(mn) 4.O(n^2)	4.0
834	Let G be the CFG, l be the number of left most derivations, r be the number of right most derivations and P be the number of parse trees. Assume l, r and P are computed for a particular string. For a given CFG 'G' and given string 'w', what is the relation between l, P, r?	1. $ =P=r$ 2. $ <=P>=r$ 3. $ >=P<=r$ 4. $ <=P<=r$	1.0
835	Let G(x) be the generator polynomial used for CRC checking. What is the condition that should be satisfied by G(x) to detect odd number of bits in error?	1. G(x) contains more than two terms 2. G(x) does not divide $1+x^k$, for any k not exceeding the frame length 3. $1+x$ is a factor of G(x) 4. G(x) has an odd number of terms.	3.0

S.NO.	Questions	Choices	Answers
836	<p>Let L1 be a recursive language, and let L2 be a recursively enumerable but not a recursive language. Which one of the following is TRUE?</p> <p>L1' --> Complement of L1 L2' --> Complement of L2</p>	<p>1. L1' is recursive and L2' is recursively enumerable 2. L1' is recursive and L2' is not recursively enumerable 3. L1' and L2' are recursively enumerable 4. L1' is recursively enumerable and L2' is recursive</p>	2.0
837	<p>Let P be a QuickSort Program to sort numbers in ascending order using the first element as pivot, Let t1 and t2 be the number of comparisons made by P for the inputs {1, 2, 3, 4, 5} and {4, 1, 5, 3, 2} respectively, Which one of the following holds?</p>	<p>1.t1=5 2.t1>t2 3.t1=4.t1=t2</p>	2.0
838	<p>Let T(n) be the function defined by T(n) = 1 and T(n) = 2T (n/2) + n, which of the following is TRUE ?</p>	<p>1. T(n) = O(n) 2.T(n) = O(log2n) 3.T(n) = O(n) 4.T(n) = O(n2)</p>	3.0
839	<p>Let w be any string of length n in {0,1}* . Let L be the set of all substrings of w. What is the minimum number of states in a non-deterministic finite automaton that accepts L?</p>	<p>1. n+1 2. n 3. n-1 4. 2n+1</p>	1.0
840	<p>Local and loop optimization in turn provide motivation for</p>	<p>1.Peephole optimization 2.DFA and Constant folding 3.Basic Code Analysis 4.Data flow analysis</p>	4.0
841	<p>LOCK prefix is used most often</p>	<p>1.during normal execution. 2.during DMA accesses 3.during interrupt servicing. 4.during memory accesses</p>	3.0
842	<p>Logical addressing is used in _____ layer</p>	<p>1.Network 2.Transport 3.Physical 4.Session</p>	1.0
843	<p>1.0</p>	<p>1. rely basis path testing 2. exercise the logical conditions in a program module 3. select test paths based on the locations and uses of variables 4. focus on testing the validity of loop constructs</p>	2.0
844	<p>Magnetic tapes are good storage media for</p>	<p>1. backup and low volume data 2. backup and high volume data 3. storing original but low volume data 4. storing original but high volume data</p>	2.0
845	<p>Manager salary details are hidden from the employee. This is</p>	<p>1.Conceptual level data hiding 2.Physical level data hiding 3.External level data hiding 4.None of mentioned</p>	1.0
846	<p>1.0</p>	<p>1. TRUE 2. FALSE 3. 4.</p>	2.0

S.NO.	Questions	Choices	Answers															
847	<p>Match all items in Group 1 with correct options from those given in Group 2.</p> <table border="0"> <tr> <td style="background-color: #cccccc;">Group 1</td><td style="background-color: #cccccc;">Group 2</td></tr> <tr> <td>P. Regular expression</td><td>1. Syntax analysis</td></tr> <tr> <td>Q. Pushdown automata</td><td>2. Code generation</td></tr> <tr> <td>R. Dataflow analysis</td><td>3. Lexical analysis</td></tr> <tr> <td>S. Register allocation</td><td>4. Code optimization</td></tr> </table>	Group 1	Group 2	P. Regular expression	1. Syntax analysis	Q. Pushdown automata	2. Code generation	R. Dataflow analysis	3. Lexical analysis	S. Register allocation	4. Code optimization	1. P-4, Q-1, R-2, S-3 2. P-3, Q-1, R-4, S-2 3. P-3, Q-4, R-1, S-2 4. P-2, Q-1, R-4, S-3	2.0					
Group 1	Group 2																	
P. Regular expression	1. Syntax analysis																	
Q. Pushdown automata	2. Code generation																	
R. Dataflow analysis	3. Lexical analysis																	
S. Register allocation	4. Code optimization																	
848	<p>Match the following:</p> <table border="0"> <tr> <td style="background-color: #cccccc;">List-I</td><td style="background-color: #cccccc;">List-II</td></tr> <tr> <td>A. Lexical analysis</td><td>1. Graph coloring</td></tr> <tr> <td>B. Parsing</td><td>2. DFA minimization</td></tr> <tr> <td>C. Register allocation</td><td>3. Post-order traversal</td></tr> <tr> <td>D. Expression evaluation</td><td>4. Production tree</td></tr> </table> <p>Codes:</p> <table border="0"> <tr> <td>A B C D</td></tr> <tr> <td>(a) 2 3 1 4</td></tr> <tr> <td>(b) 2 1 4 3</td></tr> <tr> <td>(c) 2 4 1 3</td></tr> <tr> <td>(d) 2 3 4 1</td></tr> </table>	List-I	List-II	A. Lexical analysis	1. Graph coloring	B. Parsing	2. DFA minimization	C. Register allocation	3. Post-order traversal	D. Expression evaluation	4. Production tree	A B C D	(a) 2 3 1 4	(b) 2 1 4 3	(c) 2 4 1 3	(d) 2 3 4 1	1. a 2. b 3. c 4. d	2.0
List-I	List-II																	
A. Lexical analysis	1. Graph coloring																	
B. Parsing	2. DFA minimization																	
C. Register allocation	3. Post-order traversal																	
D. Expression evaluation	4. Production tree																	
A B C D																		
(a) 2 3 1 4																		
(b) 2 1 4 3																		
(c) 2 4 1 3																		
(d) 2 3 4 1																		
849	Memory elements in clocked sequential circuits are called.	1.latches 2.gates 3.signals 4.flipflop	4.0															
850	Memory unit accessed by content is called_____	1. Read only memory 2. Programmable Memory 3. Virtual Memory 4. Associative Memory	4.0															
851	Mode of communication in which transmission takes place in both directions, but only in one direction at a time is called_____	1.simplex 2.four wired 3.full duplex 4.half-duplex	4.0															
852	Modifying the software to match changes in the ever changing environment is called	1. adaptive maintenance 2. corrective maintenance 3. perfective maintenance 4. preventive maintenance	1.0															
853	Most software continues to be custom built because	1. Component reuse is common in the software world. 2. 4.0Reusable components are too expensive to use. 3. Software is easier to build without using someone else's components 4. Off-the-shelf software components are unavailable in many application domains.	1.0															

S.NO.	Questions	Choices	Answers
854	Multiple choice examination answer sheets can be evaluated automatically by	<p>1. Optical Mark Reader</p> <p>2. Optical Character Reader</p> <p>3. Magnetic tape reader</p> <p>4. Magnetic ink character reader.</p>	1.0
855	Multiple object can be sent over a TCP connection between client and server in	<p>1. persistent HTTP</p> <p>2. nonpersistent HTTP</p> <p>3. both persistent HTTP and nonpersistent HTTP</p> <p>4. p-persistent HTTP</p>	1.0
856	Multiple variable declaration of same data type can be avoided by?	1.array 2.identifiers 3.functions 4.Pointer	1.0
857	Network layer firewall works as a	<p>1. frame filter</p> <p>2. packet filter</p> <p>3. both (a) and (b)</p> <p>4. none of the mentioned</p>	2.0
858	Network models are complicated by physical keys, but the relation model is	1.Slower because it uses logical keys 2.Slower because it uses physical keys 3.Faster because it uses physical keys 4.Faster because it uses logical keys	4.0
859	Network operating system that does not support symmetric multi-processing (SMP) is	1.Banyan (VINES) 2.Microsoft NT advanced server 3.SCO Unix 4.Novell Network 3.X	4.0
860	NOR Gate does NOT follow	1.DeMorgan's Theorem 2.Associative Law 3.Commutative Law 4.Distributive Law	4.0
861	Normalisation of database is used to	1.Minimise Errors 2.Improve Security 3.Eliminate redundancy 4.Improve security	3.0
862	Number of the times the instruction sequence below will loop before coming out of loop is, MOV AL, 00h A1: INC AL JNZ A1	1.255 2.01 3.00 4.256	4.0
863	ODBC stands for	<p>1. Object Database Connectivity.</p> <p>2. Oral Database Connectivity.</p> <p>3. Oracle Database Connectivity.</p> <p>4. Open Database Connectivity.</p>	4.0
864	One application of a digital multiplexer is to facilitate:	1.data generation 2.serial-to-parallel conversion 3.data selector 4.parity checking	1.0
865	One of the fault base testing techniques is	<p>1. unit testing.</p> <p>2. beta testing.</p> <p>3. Stress testing.</p> <p>4. mutation testing.</p>	4.0

S.NO.	Questions	Choices	Answers
866	One of the header fields in an IP datagram is the Time to Live (TTL) field. Which of the following statements best explains the need for this field?	1. It can be used to prioritize packets 2. It can be used to reduce delays 3. It can be used to optimize throughput 4. It can be used to prevent packet looping	4.0
867	One of the main advantages of using src attribute is	1. It becomes self-cached 2. It makes the HTML file modular 3. It restricts manipulation in the HTML file 4. It simplifies the HTML files	4.0
868	One of the purposes of using intermediate code in compilers is to	1. make parsing and semantic analysis simpler 2. improve error recovery and error reporting 3. increase the chances of reusing the machine-independent code optimizer in other compilers. 4. improve the register allocation.	3.0
869	overloading + operator requires return type as object because,	1.reference parameter has to be returned 2.binary addition requires that 3.all overloading functions require that 4.chain of additions	3.0
870	Overloading involves writing two or more functions with _____	1.different names and different argument lists 2.different names and the same argument list 3.the same name and different argument lists 4.the same name and the same argument list	3.0
871	Overloading the function operator	1.usually make use of a constructor that takes arguments. 2.allows you to create objects that act syntactically like functions. 3.requires a class with an overloaded operator. 4.requires a class with an overloaded [] operator.	3.0
872	Packets of the same session may be routed through different paths in:	1. TCP, but not UDP 2. TCP and UDP 3. UDP, but not TCP 4. Neither TCP nor UDP	2.0
873	Paging _____	1. solves the memory fragmentation problem 2. allows modular programming 3. allows structured programming 4. avoids deadlock	1.0
874	Parallelism and concurrency is fully achieved in which of the following thread model	1. Many-to-one model 2. Many-to-many 3. one-to-one model 4. All the models	1.0

S.NO.	Questions	Choices	Answers
875	Passing the request from one schema to another in DBMS architecture is called as _____	1. Mapping 2. Communication 3. Relational 4. network	1.0
876	Pee hole optimization	1. Local optimization 2. Loop optimization 3. Constant folding 4. Data flow analysis	3.0
877	2.0	1. true 2. false 3. 4.	4.0
878	Physical layer provides	1. mechanical specifications of electrical connectors and cables 2. electrical specification of transmission line signal level 3. specification for IR over optical fiber 4. all of the mentioned	4.0
879	Pick an incorrect declaration: 1. int x[5]; 2. int x[5]={1,2,3,4,5}; 3. int x[5] = {1,2} 4. int x[];	1. 2. 3. 4. 4.	4.0
880	Pick the odd one out.	1.[] 2.() 3.:: 4.~	3.0
881	Polymorphism reduces the effort required to extend an object system by	1. Coupling objects together more tightly 2. enabling a number of different operations to share the same name. 3. making objects more dependent on one another 4. removing the barriers imposed by encapsulation.	4.0
882	Popular application of flip-flop are.	1. Shift registers 2. Transfer register 3. Counters 4. All of these	4.0
883	Postorder Tree traversal is recursive	1. LDR 2. LRD 3. DLR 4. DRL	2.0
884	PREDICT THE OUTPUT: #include <stdio.h> void main() { int a=10,b=2,x=0; x=a+b*a+10/2*a; printf("value is=%d",x); }	1. Value is =1250 Value is =80 3. Value is =125 4. Error	2.0
885	Prim's algorithm is a method available for finding out the minimum cost of a spanning tree. Its time complexity is given by:	1. O(1) 2. O(n*n) 3. O(n log n) 4. O(n)	3.0
886	Program flow graphs are identical to program flowcharts.	1. true 2. false 3. 4.	2.0

S.NO.	Questions	Choices	Answers
887	PSW is saved in stack when there is a _____. _____	1. interrupt recognized 2. execution of RST instruction 3. Execution of CALL instruction 4. All of these	1.0
888	Quantitative methods for assessing the quality of proposed architectural designs are readily available. _____	1. TRUE 2. FALSE 3. 4.	2.0
889	Query Tree uses _____	1. Relational Algebra 2. Tuple Relational Calculus 3. Domain Relational Calculus 4. All of the options	4.0
890	Relations produced from an E - R model will always be in _____	1.3 NF 2.B CNF 3.2 NF 4.1 NF	1.0
891	Relocating bits used by relocating loader are specified by _____	1.Relocating loader itself 2.Linker 3Assembler 4.Macro processor	2.0
892	Replace the page that has not been used for the longest period of time. This principle is adopted by _____	1. FIFO Page replacement algorithm 2. Optimal Page replacement algorithm 3. Round robin scheduling algorithm 4. LRU Page replacement algorithm	4.0
893	Resource locking _____. _____	1. Allows multiple tasks to simultaneously use resource 2. Forces only one task to use any resource at any time 3. Can easily cause a dead lock condition 4. Is not used for disk drives	2.0
894	Risk management is one of the most important jobs for a _____	1. Client 2. Investor 3. Production team 4. Project manager	4.0
895	Routine is not loaded until it is called. All routines are kept on disk in a relocatable load format. The main program is loaded into memory & is executed. This type of loading is called _____	1.Static loading 2.Dynamic loading 3.Dynamic linking 4.Overlays	3.0

S.NO.	Questions	Choices	Answers
896	Routine is not loaded until it is called. All routines are kept on disk in a relocatable load format. The main program is loaded into memory & is executed. This type of loading is called _____	1. Static loading 2. Dynamic loading 3. Dynamic linking 4. Overlays	3.0
897	Run time polymorphism is achieved by _____	1. friend function 2. virtual function 3. operator overloading 4. function overloading	2.0
898	S -> aSa bSb a b; The language generated by the above grammar over the alphabet {a,b} is the set of _____	1. All palindromes 2. All odd length palindromes. 3. Strings that begin and end with the same symbol 4. All even length palindromes	2.0
899	1.0	1. true 2. false 3. 4.	2.0
900	SELECT department_id, AVG(salary) FROM employees WHERE AVG(salary) > 8000 GROUP BY department_id	1. Displays the department ID along with the average salary of employees in each department if their average of salary is greater than 8000. 2. Displays a error 3. Displays the department ID along with the average salary of employees 4. None of the options	2.0
901	SELECT department_id, COUNT(last_name) FROM employees;	1. Displays a error 2. Displays the department ID along with the number of employees in each department. 3. None of the options 4. Displays department ID and a null value	2.0
902	SELECT employee_id, last_name FROM employees WHERE salary = (SELECT MIN(salary) FROM employees GROUP BY department_id);	1. Displays the employee_id and name of employees who gets minimum salary in their department 2. Error 3. None of the options 4. Displays the employee_id, name of employees and their salary	1.0

S.NO.	Questions	Choices	Answers
903	SELECT last_name, SYSDATE-hire_date FROM employees;	<p>1. Displays number of days an employee has worked in the company.</p> <p>2. Displays number of months an employee has worked in the company.</p> <p>3. Error</p> <p>4. None of the mentioned</p>	1.0
904	Select operation in SQL is equivalent to	<p>1. the selection operation in relational algebra</p> <p>2. the selection operation in relational algebra, except that select in SQL retains duplicates</p> <p>3. the projection operation in relational algebra</p> <p>4. the projection operation in relational algebra, except that select in SQL retains duplicates</p>	4.0
905	Select the conflicting operation:	<p>1. r1(x), w2(y)</p> <p>2. r1(x), w1(x)</p> <p>3. w1(y), w2(x)</p> <p>4. r1(x), w2(x)</p>	3.0
906	SELECT THE HIGHEST PRIORITY OPERATOR	1.&& 2., 3.? : 4.++	4.0
907	Shift reduce parsers are	1.Vertical parser 2.top down and bottom up parser 3.Bottom up parser 4.Top down parser	3.0
908	Simple network management protocol (SNMP) is implemented with a daughter board in	1.the nodes 2.the server 3.the hubs 4.a separate PC that managers the network	3.0
909	Skewed binary trees can be efficiently represented using	1.Arrays 2.Linked lists 3.Stacks 4.Queues	2.0
910	2.0	<p>1. True</p> <p>2. False</p>	1.0
911	Software engineering includes system engineering.	<p>3. 4.</p> <p>1. True</p> <p>2. False</p> <p>3. 4.</p>	1.0
912	4.0	<p>1.Customer visible usage scenarios</p> <p>2. Important software features</p> <p>3.System inputs and outputs 4.</p> <p>ALL</p>	2.0
913	Software is a product and can be manufactured using the same technologies used for other engineering artifacts.	<p>1. True</p> <p>2. False</p> <p>3. 4.</p>	2.0

S.NO.	Questions	Choices	Answers
914	Software validation is achieved through a series of tests performed by the user once the software is deployed in his or her work environment.	1. true 2. false 3. 4.	2.0
915	Some code optimizations are carried out on the intermediate code because	1. they enhance the portability of the compiler to other target processors 2. program analysis is more accurate on intermediate code than on machine code 3. the information from dataflow analysis cannot otherwise be used for optimization 4. the information from the front end cannot otherwise be used for optimization	1.0
916	Some code optimizations are carried out on the intermediate code because	1.The information from data flow analysis cannot otherwise be used for optimization 2.They enhance the portability of the complier to other target processors 3.The information from the front end cannot otherwise be used for optimization 4.Program analysis is name accurate on intermediate code than on machine code	2.0
917	Specify the 2 library functions to dynamically allocate memory?	1.alloc() and memalloc() 2.malloc() and calloc() 3.memalloc() and faralloc() 4.malloc() and memalloc()	2.0
918	Spurious tuples are formed because of	1. join operation done on a non-key attribute 2. outer join operation 3. transitive dependencies 4. inner join	1.0
919	SRS is also known as specification of	1. White box testing 2. Stress testing 3. Integrated testing 4. Black box testing	4.0
920	Station A needs to send a message consisting of 9 packets to Station B using a sliding window (window size 3) and go-back-n error control strategy. All packets are ready and immediately available for transmission. If every 5th packet that A transmits gets lost (but no acks from B ever get lost), then what is the number of packets that A will transmit for sending the message to B?	1. 12 2. 14 3. 16 4. 18	3.0

S.NO.	Questions	Choices	Answers
921	Station A uses 32 byte packets to transmit messages to Station B using a sliding window protocol. The round trip delay between A and B is 80 milliseconds and the bottleneck bandwidth on the path between A and B is 128 kbps. What is the optimal window size that A should use?	1. 20 2. 40 3. 160 4. 320	2.0
922	2.0	1. true 2. false 3. 4.	4.0
923	String length is found by the condition	1.str[i]!=NULL 2.str[i]!=sizeof(str) 3.str[i]>='0' 4.str[i]!='0'	4.0
924	Suppose a circular queue of capacity $(n - 1)$ elements is implemented with an array of n elements. Assume that the insertion and deletion operation are carried out using REAR and FRONT as array index variables, respectively. Initially, REAR = FRONT = 0. The conditions to detect queue full and queue empty are	1.Full: (FRONT+1) mod n == REAR, empty: REAR == FRONT 2.Full: REAR == FRONT, empty: (REAR+1) mod n == FRONT 3.Full: (REAR+1) mod n == FRONT, empty: (FRONT+1) mod n == REAR 4.Full: (REAR+1) mod n == FRONT, empty: REAR == FRONT	4.0
925	Suppose a circular queue of capacity $(n - 1)$ elements is implemented with an array of n elements. Assume that the insertion and deletion operation are carried out using REAR and FRONT as array index variables, respectively. Initially, REAR = FRONT = 0. The conditions to detect queue full and queue empty are	1.Full: (REAR+1) mod n == FRONT, empty: REAR == FRONT 2.Full: (REAR+1) mod n == FRONT, empty: (FRONT+1) mod n == REAR 3.Full: REAR == FRONT, empty: (REAR+1) mod n == FRONT 4.Full: (FRONT+1) mod n == REAR, empty: REAR == FRONT	1.0
926	Suppose P, Q, R, S, T are sorted sequences having lengths 20, 24, 30, 35, 50 respectively. They are to be merged into a single sequence by merging together two sequences at a time. The number of comparisons that will be needed in the worst case by the optimal algorithm for doing this is _____	1.672 2.740 3.358 4.354	3.0
927	Suppose P, Q, R, S, T are sorted sequences having lengths 20,24,30,35,50 respectively. They are to be merged into a single sequence by merging together two sequences at a time. The number of comparisons that will be needed in the worst case by the optimal algorithm for doing this is _____	1.368 2.338 3.348 4.358	4.0
928	Suppose the round trip propagation delay for a 10 Mbps Ethernet having 48-bit jamming signal is 46.4 micro sec. The minimum frame size is:	1. 94 2. 416 3. 464 4. 512	4.0
929	Suppose x is dead, that is, never subsequently used, at the point where the statement $x=y+z$ appears in a basic block. Then this statement may be safely removed without changing the value of the basic block. This transformation is known as _____.	1.Common subexpression elimination 2.Dead code elimination 3.Renaming temporary variables 4.Loop invariant	2.0
930	Suppose you want to delete the name that occurs before 'Vellore' in an alphabetical listing. Which of the following data structures shall be most efficient for this operation?	1.Circular linked list 2.Dequeue 3.Linked list 4.Doubly linked list	2.0
931	Symantec Antivirus is a customized product.	1. True 2. False 3. 4.	2.0
932	Synchronous counters eliminate the delay problems encountered with asynchronous (ripple) counters because the.	1.input clock pulses are applied simultaneously to each stage 2.input clock pulses are applied only to the first and last stages 3.input clock pulses are applied only to the last stage 4.input clock pulses are not used to activate any of the counter stages	4.0
933	Syntax for creating a RegExp object: (i). var txt=new RegExp(pattern,modifiers); (ii). var txt=/pattern/modifiers; Which of the above mentioned syntax is correct?	1.(i) only 2.(ii) only 3.Both (i) and (ii) 4.None of these	3.0
934	Synthesized attribute can be easily simulated by a	1.LR grammar 2.Ambiguous grammar 3.LL grammar 4.LF grammar	1.0
935	System prototypes allow users	1. to see how well the system supports their work 2. to start working on the system 3. to put the system to production 4. to program the software	1.0

S.NO.	Questions	Choices	Answers
936	System reactions to external events is depicted by	1. State diagram 2. Activity diagram 3. Usecase diagram 4. Sequence diagram	1.0
937	2.0	1. TRUE 2. FALSE 3. 4.	1.0
938	1.0	1. true 2. false 3. 4.	1.0
939	1.0	1. True 2. False 3. 4.	3.0
940	The -----is neither an input nor an output; it is an internal bit programmed via the PC4(Port A) or PC2(Port B)bits	1.IFB 2.INTR 3.INT 4.NMI	3.0
941	The instruction is used to specify the number of stop bits, data bits, parity bit, and baud rate clock factor for the 8251 UART	1.bit set/reset 2.Mode 3.Command 4.Code	2.0
942	The 1 MB byte of memory can be divided into _____ segment	1. 1 Kbyte 2. 64 Kbyte 3. 33 Kbyte 4. 34 Kbyte	2.0
943	The 16 bit flag of 8086 microprocessor is responsible to indicate _____	1. the condition of result of ALU operation 2. the condition of memory 3. the result of addition 4. the result of subtraction	1.0
944	The 16-bit data segment value is 1000H and the offset is 2000H. calculated physical address is ---	1.10000H 2.11000H 3.12000H 4.12500H	3.0
945	The 16-bit stack segment value is 5D27H and the offset is 2C30H. calculated physical address is -- ---	1.5FFEOH 2.5FAE0H 3.5FEAOH 4.12500H	3.0

S.NO.	Questions	Choices	Answers
946	The ___ bus controller device decodes the signals to produce the control bus signal	1. internal 2. data 3. external 4. address	3.0
947	The ___ translates internet domain and host names to IP address.	1. domain name system 2. routing information protocol 3. network time protocol 4. internet relay chat	1.0
948	The _____ method of an Array object adds and/or removes elements from an array.	1. Slice 2. Reverse 3. Shift 4. Splice	4.0
949	The _____ ensures that only one IC is active at a time to avoid a bus conflict caused by two ICs writing different data to the same bus	1.control bus 2.control instructions 3.address decoder 4.CPU	3.0
950	The _____ property specifies the stack order of an element	1.d-index 2.s-index 3.x-index 4.z-index	4.0
951	The access method used for magnetic tape is _____	1. Direct 2. Random 3. Sequential 4. None of these	3.0
952	The address resolution protocol (ARP) is used for:	1. Finding the IP address using DNS 2. Finding the IP address of the default gateway 3. Finding the IP address that corresponds to a MAC address 4. Finding the MAC address that corresponds to an IP address	4.0
953	The advantage of DBMS over file systems is	1. redundancy 2. data dependence 3. multiple user 4. single user	1.0

S.NO.	Questions	Choices	Answers
954	1.0	1. data, hardware, software, people 2. data, documentation, hardware, software 3. data, hardware, software, procedures 4. documentation, hardware, people, procedures	1.0
955	The ASCII encoding of binary data is called	1. base 64 encoding 2. base 32 encoding 3. base 16 encoding 4. base 8 encoding	1.0
956	The average time required to reach a storage location in memory and obtain its contents is called the	1. seek time 2. turnaround time 3. access time 4. transfer time	3.0
957	The best index for exact match query is	1. Bucket Hash 2. Quad tree 3. B Tree 4. B+ Tree	1.0
958	1.0	1. software developers do not need to do any testing 2. a test team will test the software more thoroughly 3. testers do not get involved with the project until testing begins 4. arguments between developers and testers are reduced	4.0
959	4.0	1. examine the system model for errors 2. have the customer look over the requirements 3. send them to the design team and see if they have any concerns 4. use a checklist of questions to examine each requirement	2.0
960	The BIU contains FIFO register of size _____ bytes	1. 8 2. 6 3. 4. 4. 12	2.0

S.NO.	Questions	Choices	Answers
961	The BIU prefetches the instruction from memory and store them in _____	1. queue 2. register 3. memory 4. stack	1.0
962	The call to the parameterized constructor of base class in the derived class	1.appears inside the definition of the derived class constructor 2.appears in the member initialization list of the derived class constructor 3.appears inside the definition of the derived class 4.appears at the statement where the derived class object is created	4.0
963	The call to the parameterized constructor of base class in the derived class	1.appears inside the definition of the derived class constructor 2.appears in the member initialization list of the derived class constructor 3.appears inside the definition of the derived class 4.appears at the statement where the derived class object is created	4.0
964	The combination of Sixteen adjacent squares in four variable K-map represent the function equal to	1.Four literal 2.One literal 3.Unity 4.Zero	3.0
965	The counters of 8253 can be operated in ----- modes of operation.	1.4 2.3 3.6 4.5	3.0
966	The cyclomatic complexity metric provides the designer with information regarding the number of cycles in the program errors in the program independent logic paths in the program statements in the program	1. cycles in the program 2. errors in the program 3. 3.0 independent logic paths in the program 4. statements in the program	4.0
967	The data structure required for Breadth First Traversal on a graph is	1.tree 2.array 3.stack 4.queue	4.0
968	THE DATA TYPE IS ALL ABOUT	1.NAME VALUE ADDRESS 2.BITS BYTES WORD 3.SIZE LIMITS RESTRICTIONS 4.TYPE SIZE RANGE	4.0
969	The decimal equivalent of hexadecimal number of 'A580' is	1.43286 2.42368 3.43288 4.48632	2.0
970	The default copy constructor performs	1.Deep Copy 2.Shallow Copy 3.Soft Copy 4.Hard Copy	2.0
971	The degree sequence of a simple graph is the sequence of the degrees of the nodes in the graph in decreasing order. Which of the following sequences can not be the degree sequence of any graph? I. 7, 6, 5, 4, 4, 3, 2, 1 II. 6, 6, 6, 6, 3, 3, 2, 2 III. 7, 6, 6, 4, 4, 3, 2, 2 IV. 8, 7, 7, 6, 4, 2, 1, 1	1.IV only 2.III and IV 3.I and II 4.II and IV	4.0
972	The design process related to data structures and their representation is	1. Architectural design 2. Interface design 3. Component design 4. Database design	4.0
973	The difference between linear array and a record is	1.A record form a hierarchical structure but a linear array does not 2.All of above 3.An array is suitable for homogeneous data but the data items in a record may have different data type 4.In a record, there may not be a natural ordering in opposed to linear array	3.0
974	The Document object is which part of the object?	1.Tree 2.System 3.Window 4.Screen	3.0
975	The efficient data structure to insert/delete a number in a stored set of numbers is	1.Queue 2.Linked list 3.Doubly linked list 4.Binary tree	2.0
976	The entity relationship diagram	1. depicts relationships between data objects 2. depicts functions that transform the data flow 3. indicates how data are transformed by the system 4. indicates system reactions to external events	1.0
977	The ESC instruction of 8086 may have two formats. In one of the formats, no memory operand is used. Under this format, the number of external op-codes (for the co- processor) which can be specified is	1.64 2.128 3.256 4.512	2.0

S.NO.	Questions	Choices	Answers
978	The external system bus architecture is created using from _____ architecture	1. Pascal 2. Dennis Ritchie 3. Charles Babbage 4. Von Neumann	4.0
979	The file transfer protocol is built on	1. data centric architecture 2. service oriented architecture 3. client server architecture 4. peer to peer architecture	3.0
980	The first processor to include Virtual memory in the Intel microprocessor family was	1.Pentium 2.80486 3.80286 4.80386	3.0
981	The following is not a Relational Model Constraint	1.Referential Integrity Constraint 2.Check Constraint 3.Foreign Key Constraint 4.Entity Integrity Constraint	1.0
982	The following SQL is which type of join: SELECT CUSTOMER_T.CUSTOMER_ID, ORDER_T.CUSTOMER_ID, NAME, ORDER_ID FROM CUSTOMER_T,ORDER_T ;	1. Equi-join 2. Natural join 3. Outer join 4. Cartesian join	4.0
983	4.0	1. Define the specification for computer-based system 2. Develop defect free computer-based systems 3. Verify the correctness of computer-based systems 4. ALL	1.0
984	The function used to remove the leading spaces is	1. ltrim 2. lpad 3. rpad 4. rtrim	1.0
985	The goal of product engineering is to translate the customer's desire for a set of defined capabilities into a working product.	1. TRUE 2. FALSE 3. 4.	1.0

S.NO.	Questions	Choices	Answers
986	The grammar $A \rightarrow AA \mid (A) \mid \epsilon$ is not suitable for predictive-parsing because the grammar is	1. ambiguous 2. left-recursive 3. right-recursive 4. an operator-grammar	2.0
987	The grammar $S \rightarrow aSa \mid bS \mid c$ is	1. LL(1) but not LR(1) 2. LR(1) but not LL(1) 3. Both LL(1) and LR(1) 4. Neither LL(1) nor LR(1)	3.0
988	The Hardware mechanism that enables a device to notify the CPU is called _____.	1. Polling 2. Interrupt 3. Systems Call 4. None of these	2.0
989	The high paging activity is called _____	1. Inter process communication 2. Thrashing 3. Context Switching 4. Working Set	2.0
990	The IC 8237 is a	1. DMA Controller 2. Interrupt Controller 3. Keyboard controller 4. Serial Interface Controller	1.0
991	The IC 8251 A has ----- many pins	1. 24 2. 28 3. 40 4. 30	3.0

S.NO.	Questions	Choices	Answers
992	The IC 8254 has -----many pins	1. 24 2. 28 3. 34 4. 40	1.0
993	The IC 8254 has -----many 16 bit counters	1. 1 2. 2 3. 3 4. 4	3.0
994	The IC 8279 has -----many pins	1. 20 2. 30 3. 40 4. 10	4.0
995	The IC Number for USART is -----	1. IC 8251A 2. IC8259 3. IC5255 4. IC 8254	1.0
996	The idea of cache memory is based	1. on the property of locality of reference 2. on the heuristic 90-10 rule 3. on the fact that references generally tend to cluster 4. all of these	1.0
997	The importance of software design can be summarized in a single word	1. accuracy 2. complexity 3. 4.0efficiency 4. quality	3.0

S.NO.	Questions	Choices	Answers
998	The Incremental Model is a result of combination of elements of which two models?	1. Build & FIX Model & Waterfall Model 2. Linear Model & RAD Model 3. Linear Model & Prototyping Model 4. Waterfall Model & RAD Model	3.0
999	The incremental model of software development is	1. A reasonable approach when requirements are well defined. 2. A good approach when a working core product is required quickly. 3. The best approach to use for projects with large development teams. 4. A revolutionary model that is not used for commercial products.	2.0
1000	The intel 8086 microprocessor is a _____ processor	1. 8 bit 2. 16 bit 3. 32 bit 4. 4bit	2.0
1001	The internal block diagram of 80286 contains ---- functional parts.	1.6 2.4 3.2 4.8	2.0
1002	The interrupt cycle ends when the instruction is executed	1.IRET 2.CALL 3.PUSH 4.POP	3.0
1003	The intersection of CFL and regular language	1. Is always regular and context free 2. Is always regular 3. Is always context free 4. Need not be regular	3.0
1004	The IP is _____ bits in length	1. 8 bits 2. 4 bits 3. 16 bits 4. 32 bits	4.0
1005	The javascript statement a==b refers to	1. Both a and b are equal in value, type and reference address 2. Both a and b are equal in value 3. Both a and b are equal in value and type 4. There is no such statement	3.0

S.NO.	Questions	Choices	Answers
1006	The kernel keeps track of the state of each task by using a data structure called _____	1. Process control block 2. Process Status Word 3. Memory control block 4. None of these	1.0
1007	The language accepted by a Pushdown Automation in which the stack is limited to 10 items is best described as	1. Regular 2. context free 3. Recursive 4. Deterministic context free	1.0
1008	The language $L = \{0^i 2^j \mid i \geq 0\}$ over the alphabet {0,1, 2} is:	1. not recursive 2. is recursive and is a deterministic CFL 3. is a regular language 4. is not a deterministic CFL but a CFL	2.0
1009	The language that the computer can understand and execute is called _____	1. Machine language 2. Application software 3. System program 4. None of these	1.0
1010	The language $\{a^m b^n c^{m+n} \mid m, n \geq 1\}$ is	1. Regular language 2. context free but not regular 3. context sensitive but not context free 4. type-0 but not context sensitive	2.0
1011	The length of the shortest string NOT in the language (over $\Sigma = \{a, b\}$) of the following regular expression is _____. $a^*b^*(ba)^*a^*$	1. 2. 2. 3. 4. 4. 5	2.0
1012	The length property belongs to which of the following objects?	1.Window 2.Element 3.History 4.Document	2.0
1013	The levels of hierarchy in inheritance helps to handle	1.flexibility 2.complexity 3.detailed information 4.security	4.0

S.NO.	Questions	Choices	Answers
1014	The lexical analysis for a modern language such as Java needs the power of which one of the following machine models in a necessary and sufficient sense?	1. Deterministic pushdown automata 2. Finite state automata 3. Non-deterministic pushdown automata 4. Turing machine	2.0
1015	The library function used to find the last occurrence of a character in a string is	1.strnstr() 2.laststr() 3.strchr() 4.strstr()	3.0
1016	The linear sequential model of software development is	1. A reasonable approach when requirements are well defined. 2. A good approach when a working program is required quickly. 3. The best approach to use for projects with large development teams. 4. An old fashioned model that cannot be used in a modern context.	1.0
1017	The linear sequential model of software development is also known as the	1. Classical life cycle model 2. Spiral model 3. Waterfall model 4. Incremental Model	3.0
1018	The load instruction is mostly used to designate a transfer from memory to a processor register known as ____.	1. Accumulator 2. Instruction Register 3. Program counter 4. Memory address Register	1.0
1019	The main purpose of a data link content monitor is to	1.detect problems in protocols 2.determine the type of switch used in a data link 3.determine the flow of data 4.determine the type of switching used in data link	1.0
1020	The maximum number of superkeys for the relation schema R(E,F,G,H) with E as the key is	1. 2. 3. 4. 5. 6.	2.0

S.NO.	Questions	Choices	Answers
1021	The maximum size of payload field in ethernet frame is	1. 1000 bytes 2. 1200 bytes 3. 1300 bytes 4. 1500 bytes	4.0
1022	The maximum window size for data transmission using the selective reject protocol with n-bit frame sequence numbers is:	1. 2^n 2. $2^{(n-1)}$ 3. $2^n - 1$ 4. $2^{(n-2)}$	2.0
1023	The MC 1488 is	1. TTL to RS 232C Level converter 2. RS-232 to TTL level converter 3. Bidirectional Level converter 4. Unidirectional level converter	1.0
1024	The mechanism that bring a page into memory only when it is needed is called _____	1. Segmentation 2. Fragmentation 3. Demand Paging 4. Page Replacement	3.0
1025	The members of a class, by default, are	1.private 2.protected 3.public 4.mandatory to specify	3.0
1026	The memory unit that communicates directly with the CPU is called the	1. main memory 2. Secondary memory 3. shared memory 4. auxiliary memory	1.0
1027	The microprocessor can read/write 16 bit data from or to _____	1. memory 2. I/O device 3. processor 4. register	1.0

S.NO.	Questions	Choices	Answers
1028	The microprocessor determines whether the specified condition exists or not by testing the _____	1. carry flag 2. conditional flag 3. common flag 4. sign flag	2.0
1029	The minimum number of arithmetic operations required to evaluate the polynomial $P(X) = X^5 + 4X^3 + 6^X + 5$ for a given value of X using only one temporary variable is.	1.6 2.9 3.8 4.7	4.0
1030	The minimum number of arithmetic operations required to evaluate the polynomial $P(X)=X^5+4X^3+6^X+5$ for a given value of X using only one temporary variable.	1.6 2.7 3.8 4.9	2.0
1031	The minimum number of nodes in a binary tree of depth d (root at level 0) is	1.2d - 1 2.d + 1 3.2d + 1 - 1 4.d	2.0
1032	The MMU (Memory Management Unit) is a	1. Hardware 2. Software 3. Firmware 4. Malware	1.0
1033	The nature of collaboration is such that all system requirements are defined by consensus of a committee of customers and developers.	1. TRUE 2. FALSE 3. 4.	2.0
1034	The node type for document returns the value ---.	1.2 2.9 3.3 4.8	4.0
1035	The number of auxiliary memory required for a Push Down Machine (PDM) to behave like a Finite State Machine (FSM) is	1. 0 2. 2 3. 4 4. 1	1.0
1036	The number of clock pulses needed to shift one byte of data from input to the output of a 4-bit shift register is.	1.10 2.12 3.16 4.32	3.0
1037	The number of components in a graph with n nodes and 1 edge are	1.n 2.n-2 3.n-1 4.n-3	3.0
1038	The number of components in a graph with n nodes and 1 edge are	1.n 2.n-2 3.n-1 4.n-3	3.0
1039	The number of counters available in internal block diagram of 8253 is	1.2 2.1 3.3 4.4	3.0
1040	The number of states in DFA is -----than the number of states in NFA for the same Language.	1. Greater 2. less 3. greater equal 4. equal	2.0
1041	The number of tokens in the following C statement is printf("i = %d, &i = %x", i, &i);	2.0	4.0
1042	The operation of processing each element in the list is known as	1.Sorting 2.Merging 3.Inserting 4.Traversal	4.0
1043	The other name for MODE 0 in 8253 timer is	1.software triggered strobe 2.Programmable one shot 3.Interrupt on terminal count 4.Square wave rate generator	3.0

S.NO.	Questions	Choices	Answers
1044	The physical layer concerns with	1. bit-by-bit delivery 2. process to process delivery 3. application to application delivery 4. Hop by hop delivery	1.0
1045	The physical layer is responsible for	1. line coding 2. channel coding 3. modulation 4. all of the mentioned	4.0
1046	The physical layer translates logical communication requests from the _____ into hardware specific operations.	1. data link layer 2. network layer 3. trasnport layer 4. application layer	1.0
1047	The pop() method of the array in javascript does which of the following task ?	1. decrements the total length by 1 2. increments the total length by 1 3. prints the first element but no effect on the length 4. don't return the value of deleted element	1.0
1048	The portion of physical layer that interfaces with the media access control sublayer is called	1. physical signalling sublayer 2. physical data sublayer 3. physical address sublayer 4. none of the mentioned	1.0
1049	The postfix expression for * + a b - c d is?	1.ab + cd - * 2.ab + cd * - 3.ab + - cd * 4.ab cd + - *	1.0
1050	The postfix form of the expression (A+ B)*(C*D- E)*F / G is	1.AB + CD* E - *F *G / 2.AB + CD* E - F **G / 3.AB+ CD*E - FG /** 4.AB + CDE * - * F *G /	3.0
1051	The preorder traversal sequence of a binary search tree is 30,20,10,15,25,23,39,35,42. Which one of the following is the postorder traversal sequence of the same tree?	1.10,20,15,23,25,35,42,39,30 2.15,10,25,23,20,42,35,39,30 3.15,20,10,23,25,42,35,39,30 4.15,10,23,25,20,35,42,39,30	4.0

S.NO.	Questions	Choices	Answers
1052	The process of retaining data for future use is called	1. reading 2. writing 3. storing 4. coding	3.0
1053	The project planner examines the statement of scope and extracts all important software functions which is known as	1. Association 2. Decomposition 3. Planning process 4. ALL	3.0
1054	3.0	1. Another name for component-based development. 2. Another name for component-based development. 3. A high speed adaptation of the linear sequential model. 4. ALL	4.0
1055	The RDBMS terminology for a row is	1.attribute 2.relation 3.degree 4.tuple	4.0
1056	The recognizing capabilities of NDFSM and DFSM	1. may be different 2. must be different 3. must be same 4. none of the mentioned	3.0
1057	The relational model uses some unfamiliar terminology. A tuple is equivalence to a:	1.record 2.field 3.file 4.database	1.0
1058	The removal of process from active contention of CPU and reintroduce them into memory later is known as _____	1. Interrupt 2. Swapping 3. Signal 4. Thread	2.0
1059	The restriction while using the binary search is ?	1.List should be small in number 2.List should be large in number 3.List should be sorted 4.No restriction	3.0
1060	The result evaluating the postfix expression $(10\ 5 + 60\ 6 / * 8 -)$ is	1.284 2.142 3.213 4.71	2.0
1061	The searching technique that takes O (1) time to find a data is	1.Binary Search 2.Linear Search 3.Tree Search 4.Hashing	4.0

S.NO.	Questions	Choices	Answers
1062	The segment number S is legal if	1. S < STBR 2. S > STBR 3. S < STLR 4. S > STLR	3.0
1063	The simplest image processing technique is	1.coordinates transformation 2.intensity transformation 3.spatial transformation 4.domain transformation	1.0
1064	The situation when in a linked list START=NULL is	1.overflow 2.underflow 3.housefull 4.saturated	2.0
1065	The smallest element of an array's index is called its	1.lower bound 2.range D. extract 3.upper bound 4.ion	1.0
1066	The smallest finite automation which accepts the language {x length of x is divisible by 3} has :	1. 2 states 2. 3 states 3. 4 states 4. 5 states	3.0
1067	The space factor when determining the efficiency of algorithm is measured by	1.Counting the average memory needed by the algorithm 2.Counting the minimum memory needed by the algorithm 3.Counting the maximum memory needed by the algorithm 4.Counting the maximum disk space needed by the algorithm	3.0
1068	4.0	1. Ends with the delivery of the software product 2. Is not more chaotic than the incremental model 3.Do not Include project risks evaluation during each iteration 4.Includes feasibility risks	2.0
1069	The spiral model was originally proposed by	1. IBM 2. Barry Boehm 3. Pressman 4. Royce	2.0
1070	The SQL BETWEEN operator	1. Specifies a range to test 2. specifies between which tables the data is present 3. specifies the columns between which columns the data is present 4. None of the options	1.0
1071	The starting address for counter 0 of 8253 is 0038H, then port address for control word register is	1.44H 2.49H 3.42H 4.46H	3.0

S.NO.	Questions	Choices	Answers
1072	The state diagram	1. depicts relationships between data objects 2. depicts functions that transform the data flow 3. indicates how data are transformed by the system 4. indicates system reactions to external events	1.0
1073	The status that cannot be operated by direct instructions is	1.Z 2.Cy 3.P 4.AC	4.0
1074	The stream insertion operator should be overloaded as	1.friend functions 2.member function 3.non member functions 4.static functions	4.0
1075	The stream insertion operator should be overloaded as	1.friend functions 2.member function 3.non member functions 4.static functions	4.0
1076	The switching method fixes the path from source to destination is _____	1.circuit switching 2.Message Switching 3.Packet switching 4.Frame Relay	1.0
1077	The syntax of Eval is _____	1.[objectName].eval(numeriC) 2.[objectName].eval(string) 3. [EvalName].eval(string) 4.[EvalName].eval(numeriC)	2.0
1078	The system engineering process usually begins with the	1. detailed view 2. domain view 3. 4.0 element view 4. world view	1.0
1079	1.0	1. Function, performance and constraints of a computer-based system 2. implementation of each allocated system 3. element software architecture 4.time required for system simulation	3.0
1080	The tightest upper bound for the worst case performance of quicksort implemented on an array of n elements by always choosing the pivot as the central element is	1.T(n! logn) 2.O(n logn) 3.O(n^2) 4.O(n^3)	3.0
1081	The time complexity to build a heap with a list of n numbers is	1.O(n logn) 2.O(n) 3.O(log n) 4.O(n2)	2.0
1082	The topology with highest reliability is	1.ring topology 2.star topology 3.bus topology 4.mesh topology	4.0
1083	The total number of pins for the IC 8255 is	1. 28 2. 40 3. 30 4. 20	2.0
1084	The two statements that can be used to change the flow of control are	1.switch and do-while 2.if and while 3.if and switch 4.break and continue	3.0
1085	The UNION SQL clause can be used with...	1. none of the options 2. the SELECT clause only 3. the UPDATE clause only 4. the DELETE and UPDATE clauses	2.0

S.NO.	Questions	Choices	Answers
1086	The use of traceability tables helps to	1. debug programs following the detection of run-time errors 2. determine the performance of algorithm implementations 3. identify, control, and track requirements changes 4. Analyze design changes	3.0
1087	The value in AL=11011010 after the operation of CBW, the result is	1.AX=1101 1010 1111 1111 2.AX=1101 1010 0000 0000 .3.AX=1111 1111 1101 1010 4.AX=0000 0000 1101 1010	3.0
1088	The virtual file system provides us the following	1. Object oriented file implementation 2. Structured programming file implementation 3. Linked file allocation 4. Indexed file allocation	2.0
1089	The work of EU is _____	1. encoding 2. decoding 3. processing 4. calculations	3.0
1090	2.0	1. size of the budget 2. size of the product being built 3. software process being used 4. stakeholders needs	3.0
1091	The worst case running time to search for an element in a balanced binary search tree with n^*2^n elements is	1.theta(n log n) 2.theta(n*2^n) 3.theta(n) 4.theta(log n)	3.0
1092	The worst case running time to search for an element in a balanced in a binary search tree with n^*2^n elements is	1.theta(n log n) 2.theta(n*2^n) 3.theta(n) 4.theta(log n)	3.0
1093	There are n stations in a slotted LAN. Each station attempts to transmit with a probability p in each time slot. What is the probability that only one station transmits in a given time slot?	1. $(1-p)^{n-1}$ 2. $np(1-p)^{n-1}$ 3. $p(1-p)^{n-1}$ 4. $1-(1-p)^{n-1}$	2.0
1094	There is no connection setup phase in _____	1.Frame relay 2.Virtual Circuit Switching 3.Datagram 4.ATM	3.0
1095	Thrashing occurs _____	1. when excessive swapping takes place 2. when you thrash your computer 3. whenever deadlock occurs 4. when no swapping takes place	1.0

S.NO.	Questions	Choices	Answers
1096	Thresholding function in contrast stretching creates	1.binary image 2.high quality image 3.low quality image 4.enhanced image	1.0
1097	To create an alias Objects have to be passed by	1.address 2.reference 3.value 4.field by field	2.0
1098	To Delete an item from a Queue identify the correct set of statements	1.Q[REAR] = item; REAR ++ 2.item = Q[FRONT]; FRONT++ 3.item = Q[REAR]; FRONT ++ 4.item = Q[FRONT]; REAR ++	2.0
1099	To determine the architectural style or combination of styles that best fits the proposed system, requirements engineering is used to uncover	1. algorithmic complexity 2. characteristics and constraints 3. control and data 4. design patterns	2.0
1100	To interface memory with the microprocessor, connect register the lines of the address bus must be added to address lines of the _____ chip.	1. single 2. memory 3. multiple 4. triple	2.0
1101	To operate correctly, starting a ring counter requires	1.presetting all the flip-flops 2.clearing one flip-flop and presetting all the others 3.presetting one flip-flop and clearing all the others 4.clearing all the flip-flops	1.0
1102	Today the increased power of the personal computer has brought about an abandonment of the practice of team development of software	1. True 2. false 3. 4.	1.0
1103	Trigger is a	1.Statement that enables to start any DBMS 2.Statement that is executed by the user when debugging an application program 3.Statement that is executed automatically by the system as a side effect of a modification to the database 4.Condition the system tests for the validity of the database user	3.0
1104	Two computers C1 and C2 are configured as follows. C1 have IP address as 203.197.2.53 and netmask 255.255.128.0. C2 have IP address as 203.197.75.201 and netmask 255.255.192.0. Which one of the following statements is true?	1. C1 and C2 both assume they are on the same network 2. C2 assumes C1 is on same network, but C1 assumes C2 is on a different network 3. C1 assumes C2 is on same network, but C2 assumes C1 is on a different network 4. C1 and C2 both assume they are on different networks.	3.0
1105	Two sets of functional dependencies E and F are equivalent if $E^+ = F^+$. This statement is	1. True 2. False 3. Cant Say 4.	1.0
1106	Updating a database means	1.deleting database 2.modifying or adding record occurrences 3.revising the file structure 4.reorganizing the database	2.0

S.NO.	Questions	Choices	Answers
1107	Usability questionnaires are most meaningful to the interface designers when completed by	1. customers 2. experienced programmers 3. product users 4. project managers	2.0
1108	Using linked list node representation, inserting a node in general tree is performed efficiently	1.not possible 2.by merging with an existing node 3.after introducing a new link 4.after converting to binary tree	2.0
1109	Using the 8259A, the INT input of the 8086 can be expanded to accomodate up to ----- prioritized interrupt inputs	1.60 2.64 3.16 4.32	2.0
1110	Usually a pure virtual function	1.Will be called only to delete an object 2.Is defined only in derived class 3.Will never be called 4.Has complete function body	2.0
1111	Virtual memory is the portion of _____.	1. RAM 2. Cache Memory 3. Hard Disc 4. None of these	3.0
1112	Voice privacy in GSM cellular telephone protocol is provided by	1. A5/2 cipher 2. b5/4 cipher 3. b5/6 cipher 4. b5/8 cipher	1.0
1113	VOLATILE MEMORY IS _____ ?	1.COMPACT DISK 2.HARD DISK 3.RANDOM ACCESS MEMORY 4.READ ONLY MEMORY	3.0
1114	1.0	1. architecture, interface, component 2. cost, risk, schedule 3. Information, function, behavior 4. NONE	1.0
1115	What assess the risk and your plans for risk mitigation and revise these when you learn more about the risk?	1. Risk monitoring 2. Risk planning 3. Risk analysis 4. Risk identification	1.0

S.NO.	Questions	Choices	Answers
1116	What characteristic of RAM memory makes it not suitable for permanent storage?	1. too slow 2. unreliable 3. it is volatile 4. too bulky	3.0
1117	What do the 'c' and 'v' in argv stands for?	1.'c' means argument count 'v' means argument vector 2.'c' means argument count 'v' means argument vertex 3.'c' means argument configuration 'v' means argument visibility 4.'c' means argument control 'v' means argument vector	1.0
1118	What does /[^]* regular expression indicate ?	1.Match one or more characters that are not open parenthesis 2.Match zero or more characters that are open parenthesis 3.Match zero or more characters that are not open parenthesis 4.Match one or more characters that are open parenthesis	2.0
1119	What does explode function in php do	1.Used to convert a string to an array 2.Used to split a given string into the number of chunks specified 3.Used to split a string by a string 4.Used to split string into two equal halves	1.0
1120	What does microprocessor speed depends on	1.Clock 2.Address bus width 3.Data bus width 4.Size of register	2.0
1121	What does parseFloat(9+10) evaluates to in JavaScript?	1.19 2.910 3.9109 4.91	1.0
1122	What does the following declaration mean? int (*ptr)[10];	1.ptr is array of pointers to 10 integers 2.ptr is a pointer to an array of 10 integers 3.ptr is an array of 10 integers 4.ptr is an pointer to array	2.0
1123	What elements will the following script output? <pre><?php \$array = array (true => 'a', 1 => 'b'); var_dump (\$array); ?></pre>	1. 1 => 'b' 2. True => 'a', a => 'b' 3. NULL 4. 0 => 'a', 1 => 'b'	3.0
1124	What gets printed? \$str = 'a\b\n'; echo \$str;	1.ab(newline) 2.a\b(newline) 3.a\b\n 4.a\b(newline)	3.0
1125	What happens if no file path is given in include() function?	1.PHP continues to execute the script. 2.Results in a fatal error 3.Include_path is made use of 4.It haults the script.	3.0
1126	What is a Software ?	1. Software is set of programs 2. Software is documentation and configuration of data 3. Software is set of programs and Software is documentation and configuration of data 4. Software is a set of documents.	3.0
1127	What is asynchronous counter.	1.none of them 2.A master clock triggers all the flip-flops at a time 3.all the flip-flop are combined to common clock 4.each flip-flop has its own clock	4.0
1128	What is data encryption standard (DES)?	1. block cipher 2. stream cipher 3. bit cipher 4. none of the mentioned	1.0

S.NO.	Questions	Choices	Answers
1129	What is interframe gap?	1. idle time between frames 2. idle time between frame bits 3. idle time between packets 4. none of the mentioned	1.0
1130	What is meant by parallel-loading the register?	1.Shifting the data in all flip-flops simultaneously 2.Loading data in two of the flip-flops 3.Loading data in all flip-flops at the same time 4.Momentarily disabling the synchronous SET and RESET inputs	3.0
1131	What is the best case for linear search	1.O(n) 2.O(1) 3.O(log n) 4.O(2n)	2.0
1132	What is the code to start displaying the time when document loads?	1.onload = displayTime; 2.window. = displayTime; 3.window.onload = displayTime; 4.window.onload = start;	3.0
1133	What is the condition for resetting(s=0) the S flag in status register?	1.MSB of the result is One 2.MSB of the result is zero 3_LSB of the result is one 4_LSB of the result is zero	2.0
1134	What is the correct CSS syntax for making all the elements bold?	1.p {font-weight:bold;} 2.p style="text-size:bold" 3.p {text-size:bold} 4.p style="font-size:bold">	1.0
1135	What is the correct way to connect to a MySQL database?	1.mysqli_db(host,username,password,dbname); 2.mysqli_connect(host,username,password,dbname); 3.mysqli_open(host,username,password,dbname); 4.mysqli_connect(,,)	2.0
1136	What is the data structures used to perform recursion?	1.list 2.queue 3.stack 4.Tree	3.0
1137	What is the default execution time set in set_time_limit()?	1.20 secs 2.30 secs 3.40 secs 4.50 secs	2.0
1138	What is the default size of a file set in upload_max_filesize ?	1.1 MB 2.2 MB 3.2.5 MB 4.3 MB	2.0
1139	What is the difference between echo and print?	1.They both behave the same. 2.Print can take multiple parameters where as echo cannot 3.Echo can take multiple parameters where as print cannot 4.Print is a function where as echo is not.	3.0
1140	What is the following style an example of? img[alt="Pie"]	1.Attribute Match 2.Exact Value Match 3.Contains Value Match 4.Subcode Match	3.0
1141	What is the highest normal form level satisfied by the following table design? R= {A1,A2,A3,A4,A4} F={A1-> A3, A3->A4} Key ={A1,A2};	1. 1 NF 2. 2 NF 3. 3 NF 4. BCNF	2.0
1142	What is the maximum number of reduce moves that can be taken by a bottom-up parser for a grammar with no epsilon- and unit-production (i.e., of type A -> ε and A -> a) to parse a string with n tokens?	1. n/2 2. n-1 3. 2n-1 4. 2^n	2.0
1143	What is the maximum size of data that the application layer can pass on to the TCP layer below?	1. Any size 2. 2^16 bytes-size of TCP header 3. 2^16 bytes 4. 1500 bytes	1.0
1144	What is the minimum number of NAND gates required to implement A + AB' + AB'C?	1.0 2.1 3.2 4.3	1.0
1145	What is the most essential purpose of parenthesis in regular expressions?	1.Define pattern matching techniques 2.Define subpatterns within the complete pattern 3.Define portion of strings in the regular expression 4.All of the mentioned	2.0

S.NO.	Questions	Choices	Answers
1146	what is the need of segmenting the memory in 8086	1.Increase the memory accessibility 2.Increase the memory addressibility 3.easy to retrieve data 4.faster access	2.0
1147	What is the normal order of activities in which traditional software testing is organized? a. integration testing b. system testing c. unit testing d.validation testing	1. a, d, c, b 2. b, d, a, c 3. 3.0c, a, d, b 4. d, b, c, a	1.0
1148	What is the order of the stages in the waterfall mode?	1. Requirements Definition, System & Software Design, Implementation & Unit Testing, Integration & System Testing, Operation & Maintenance. 2. Requirements Definition, Integration & System Testing, System & Software Design, Implementation & Unit Testing, Operation & Maintenance. 3. System & Software Design, Requirements Definition, Operation & Maintenance, Implementation & Unit Testing, Integration & System Testing. 4. Implementation & Unit Testing, Requirements Definition, System & Software Design, Integration & System Testing, Operation & Maintenance.	1.0
1149	what is the output for the following function? LPAD(salary,10,'*')	1. 10****24000 2. *****24000 3. 24000***** 4. error	2.0
1150	What is the output? #include <stdio.h> void main() { int a=3,b=2; a=a==b==0; printf("%d,%d",a,b); }	1. 1,2 2. 3,2 3. 0,0 4. 2,3	1.0
1151	What is the purpose of \$_SESSION[]?	1. Used to register a global variable 2. Used to initialize a session 3. Used to store variables of the current session 4. Used to initialize a cookie	3.0
1152	What is the result of the following code snippet? window.location === document.location	1.False 2.True 3.0 4.1	2.0
1153	What is the strpos() function used for?	1.Find the last occurrence of the string within a string 2.Find the first occurrence of the string within a string 3.Find both last and first occurrence 4.Search for all occurrence within a string	2.0
1154	What is the time complexity for binary search	1.O(log n) 2.O(n^2) 3.O(1) 4.O(2n)	1.0
1155	What is the time complexity for insertion sort	1.O(log n) 2.O(n) 3.O(n^2) 4.O(1)	3.0
1156	What is the worst case for Selection sort	1.O(log n) 2.O(2n) 3.O(n) 4.O(n^2)	4.0

S.NO.	Questions	Choices	Answers
1157	What is Wired Equivalent Privacy(WEP)?	1. security algorithm for ethernet 2. security algorithm for wireless networks 3. security algorithm for USB 4. None	2.0
1158	What is WPA?	1. wi-fi protected access 2. wired protected access 3. wired process access 4. wi-fi process access	1.0
1159	What is x+ mode in fopen() used for?	1. Read/Write. Creates a new file. Returns FALSE and an error if file already exists 2. Write only. Creates a new file. Returns TRUE and an error if file already exists 3. Read/Write. Opens and clears the contents of file 4. Write. Opens and clears the contents of file	1.0
1160	What keyword covers unhandled possibilities?	1.other 2.default 3.contingency 4.all	2.0
1161	What kind of schema it is? <i>Student(sid, sname, dob, address, pincode)</i>	1.Relaional 2.Logical Schema 3.Conceptual Schema 4.External View	1.0
1162	What library do you need in order to process images?	1. GD library 2. ZIP library 3. Win32 API library 4. BOGUS library	1.0
1163	What type of declaration is this: unsigned num;	1. num is unsigned integer 2. num is unsigned float 3. num is unsigned character 4. Invalid declaration	4.0
1164	What type of register would shift a complete binary number in one bit at a time and shift all the stored bits out one bit at a time?	1.PIPO 2.PISO 3.SIPO 4.SISO	4.0

S.NO.	Questions	Choices	Answers
1165	What will be the output? <pre>#include <stdio.h> int main() { extern int ok; printf("value of ok = %d",ok); return 0; } extern int ok=1000;</pre>	1. Declaration Error 2. value of ok = 1000 3. value of ok = 0 4. Linking Error	2.0
1166	What will be the result of the expression 13 & 25	1.25 2.38 3.9 4.12	3.0
1167	What will be the status of a computer during storage compaction	1. High paging activity 2. Thrasing happens 3. Working set model developed 4. It will sit idle	4.0
1168	What will happen if the first argument of open() is omitted?	1.Error Page 2.Remains in the same page 3.about:blank 4.Open the first page in the history	3.0
1169	What will the following script output? <pre><?php \$arry = array (1, 2, 3, 5, 8, 13, 21, 34, 55); \$sum = 0; for (\$i = 0; \$i < 5; \$i++) { \$sum += \$arry[\$arry[\$i]]; } echo \$sum; ?></pre>	78 19 3. NULL 4. 5	1.0
1170	What would be the output of the below code fragment? var a = ["s","a","v","e"]; document.write(a.join(""));	1.Undefined 2.save 3.vase 4.S	2.0
1171	1.0	1. true 2. false 3. 4.	1.0
1172	When a new row is inserted the constraints that can be violated are	1. Primary Key constraint 2. Referential Integrity Constraint 3. all of the options 4. Domain Constraint	1.0
1173	When a single item that triggers other data flow along one of many paths of a data flow diagram, characterizes the information flow.	1. 3.0high coupling 2. poor modularity 3. transaction flow 4. transform flow	1.0

S.NO.	Questions	Choices	Answers
1174	When displaying a web page, the application layer uses the	1. HTTP protocol 2. FTP protocol 3. SMTP protocol 4. IMAP Protocol	1.0
1175	When operated in slave mode, the PIC outputs its type number only if the cascaded address received on CAS0-CAS2 matches the address programmed in ----- bits D0-D2	1.ICW1 2.ICW2 3.ICW3 4.ICW4	4.0
1176	When the overall flow in a segment of a data flow diagram is largely sequential and follows straight-line paths, _____ is present.	1. 4.0 low coupling 2. good modularity 3. transaction flow 4. transform flow	3.0
1177	When the pre-order and post-order traversal of a Binary Tree generates the same output, the tree can have maximum	1.Three nodes 2.Two nodes 3.One node 4.Any number of nodes	3.0
1178	When there are infinite distinguishable strings then there cannot be a -----	1. automata 2. finite automata 3. regular expression 4. both finite automata and regular expression	2.0
1179	When there is an indefinite or an infinity value during an arithmetic value computation, javascript	1. Prints an exception error 2. Prints an overflow error 3. Displays “Infinity” 4. Prints the value as such	3.0
1180	When used with the datalist element, what is the list attribute in HTML5 used to accomplish?	1.Local databases 2.Drop down lists 3.Autocompletion 4.Global Databases	3.0
1181	When we concatenate two languages L1 and L2 recognized by machine M1 and M2 we obtain a machine with final state same as that of _____	1. M2 2. M1 and M2 3. M1 4. M1 or M2	2.0
1182	when you were asked to design a relation, you come across a situation, where passport number is to be included for the people. All the students wont be having passport. So what constraint you would be using?	1. Primary Key 2. Not Null 3. Default 4. Unique	4.0

S.NO.	Questions	Choices	Answers
1183	Which of the following is shared between all of the threads in a process? Assume a kernel level thread implementation	1. Register values 2. File descriptors 3. Scheduler priority 4. Local variables	2.0
1184	Which buffer is a parallel to serial converter that receives a parallel byte for conversion into a serial signal and further transmission onto the communication channel.	1. Transmit buffer 2. Receive buffer 3. Data bus buffer 4. Modem control	1.0
1185	Which character function can be used to return a specified portion of a character string?	1. INSTR 2. SUBSTRING 3. SUBSTR 4. POS	3.0
1186	Which command we use to set an image on background?	1. image-background:url('R4R_Logo.jpg') 2. background-image:url('R4R_Logo.jpg') 3. bg-image:url('R4R_Logo.jpg') 4. background-image:href('R4R_Logo.jpg')	2.0
1187	Which Data structure is best suited for the UNDO operation in Windows	1. Both Stack and Queues 2. Queues 3. Stack 4. Arrays	3.0
1188	Which database level is closest to the users?	1. External 2. Conceptual 3. Internal 4. Physical	1.0
1189	Which date function is used to obtain the date of next Wednesday	1. NEXT_DAY 2. LAST_DAY 3. NEXT_DATE 4. All of the options	3.0
1190	4.0	1. Architectural design 2. Component-level design 3. Data design 4. Interface design	3.0

S.NO.	Questions	Choices	Answers
1191	Which directory implementation is used in most of the Operating Systems?	1. Single level directory structure 2. Two level directory structure 3. Tree directory structure 4. Acyclic directory structure	3.0
1192	Which directory implementation method creates more dangling pointers?	1. Single level directories 2. Two level directories 3. Tree Structured Directories 4. Acyclic graph directories	4.0
1193	Which element is used to draw graphics images on a web page?	1.script 2.audio 3.embed 4.canvas	4.0
1194	Which granularity level of testing checks the behavior of module cooperation?	1. Unit Testing 2. Integration Testing 3. Acceptance Testing 4. Regression Testing	2.0
1195	Which header file should be included to use functions like malloc() and calloc()?	1.string.h 2.dos.h 3.memory.h 4.stdlib.h	4.0
1196	Which Instruction word is used to specify the number of stop bits, data bits, parity bit and the baud rate clock factor for the 8251A USART	1.Mode 2.Command followed by Mode 3.Command 4.Mode followed by command	4.0
1197	Which is a major problem with SQL?	1. SQL cannot support object-orientation 2. The same query can be written in many ways, each with vastly different execution plans. 3. SQL syntax is too difficult for non-computer professionals to use 4. SQL creates excessive locks within the database	2.0
1198	Which is not related to deadlock avoidance?	1. Safe State 2. Unsafe State 3. Safe Sequence 4. Resource sequence	3.0

S.NO.	Questions	Choices	Answers
1199	Which is one of the most important stakeholder from the following ?	1. Entry level personnel 2. Middle level stakeholder 3. Managers 4. Users of the software	4.0
1200	Which is the correct way to write a JavaScript array?	1. var txt = new Array(1:"tim",2:"kim",3:"jim") 2. var txt = new Array:1=("tim")2=("kim")3=("jim") 3. var txt = new Array("tim","kim","jim") 4. var txt = new Array="tim","kim","jim"	3.0
1201	Which is used to store critical pieces of data during subroutines and interrupts	1. Stack 2. Queue 3. Accumulator 4. Data register	1.0
1202	Which item is an example of a physical network address?	1.IP address 2.MAC address 3.Workstation name 4.www.proprofs.com	2.0
1203	Which JavaScript function is most useful for finding errors?	1.Confirm 2.Prompt 3.Debug 4.Alert	3.0
1204	Which method bypasses the CPU for certain types of data transfer?	1. Software interrupts 2. Interrupt-driven I/O 3. Polled I/O 4. Direct memory access (DMA)	4.0
1205	Which method is used for loading the driver in Java JDBC.	1. getDriver() method 2. class.forName() 3. createStatement() 4. getConnection()	1.0
1206	Which method is used to search for a substring?	1. stringVariable.substring(subString) 2. stringVariable.find(subString) 3. stringVariable.indexOf(subString) 4. stringVariable.indexOf(charAt(0))	3.0

S.NO.	Questions	Choices	Answers
1207	Which model can be selected if user is involved in all the phases of SDLC?	1. Waterfall Model 2. Prototyping Model 3. RAD Model 4. Prototyping Model and RAD model	3.0
1208	3.0	1. design model 2. implementation model 3. user model 4. client model	2.0
1209	Which multiple access technique is used by IEEE 802.11 standard for wireless LAN?	1. CDMA 2. CSMA/CA 3. ALOHA 4. CSMA/CD	2.0
1210	Which of the below given sorting techniques has highest best-case runtime complexity?	1.bubble sort 2.insertion sort 3.quick sort 4.selection sort	3.0
1211	Which of the following (in file scope) leads to a compile-time error?	1.const int a=90; 2.const int f1() { return 100; } 3.int f2() const { return 200; } 4.const int f3(const int i) { return 300; }	3.0
1212	Which of the following activities is not one of the four things that need to be accomplished by the generic planning task set?	1. 3.0Develop overall project strategy 2. Identify the functionality to deliver in each software increment 3. Create a detailed schedule for the complete software project 4. Devise a means of tracking progress on a regular basis	4.0
1213	Which of the following addressing modes are suitable for program relocation at run time? 1. Absolute addressing 2. Based addressing 3. Relative addressing 4. Indirect addressing	1. and 4 2. 1 and 2 3. 2 and 3 4. 1,2 and 4	4.0
1214	Which of the following algorithm design technique is used in the quick sort algorithm?	1.Greedy method 2.Backtracking 3.Divide and conquer 4.Dynamic programming	3.0
1215	Which of the following algorithm is Minimum Spanning Tree in graph	1.Dijktra's algorithm 2.AVL Tree algorithm 3.Kruskal's algorithm 4.Merge algorithm	3.0
1216	Which of the following algorithm is used to find the shortest path between two nodes in graph	1.Dijktra's algorithm 2.Prim's algorithm 3.Kruskal's algorithm 4.Merge algorithm	1.0

S.NO.	Questions	Choices	Answers
1217	<p>Which of the following are decidable?</p> <p>I. Whether the intersection of two regular languages is infinite</p> <p>II. Whether a given context-free language is regular</p> <p>III. Whether two push-down automata accept the same language</p> <p>IV. Whether a given grammar is context-free</p>	<p>1. I and II</p> <p>2. I and IV</p> <p>3. II and III</p> <p>4. I and III</p>	3.0
1218	Which of the following attribute is needed for file upload via form?	<p>1. enctype='multipart/form-data'</p> <p>2. enctype='singlepart/data'</p> <p>3. enctype='file'</p> <p>4. enctype='form-data/file'</p>	1.0
1219	Which of the following can be a valid column name?	<p>1. Column</p> <p>2. 1966_Invoices</p> <p>3. Catch_#22</p> <p>4. #Invoices</p>	3.0
1220	Which of the following can't be done with client-side JavaScript?	1. Validating a form 2. Sending a form's contents by email 3. Storing the form's contents to a database file on the server 4. Testing the form	3.0
1221	Which of the following case does not exist in complexity theory?	1. Average case 2. Worst case 3. Best case 4. Null case	4.0
1222	Which of the following command words need to be programmed to operate a single PIC in fully nested mode with an 8086 microprocessor	1. ICW1 and ICW2 2. ICW1, ICW2 and ICW4 3. ICW2 and ICW3 4. ICW1 and ICW4	2.0
1223	Which of the following correctly describes C++ language?	1. Statically typed language 2. Dynamically typed language 3. Both Statically and dynamically typed language 4. Type-less language	4.0
1224	Which of the following describes a handle (as applicable to LR-parsing) appropriately?	<p>1. It is the position in a sentential form where the next shift or reduce operation will occur</p> <p>2. It is non-terminal whose production will be used for reduction in the next step</p> <p>3. It is a production that may be used for reduction in a future step along with a position in the sentential form where the next shift or reduce operation will occur</p> <p>4. It is the production p that will be used for reduction in the next step along with a position in the sentential form where the right hand side of the production may be found</p>	4.0
1225	Which of the following explains cookies nature?	1. Non Volatile 2. Volatile 3. Intransient 4. Transient	4.0
1226	Which of the following file access method needs a relative block number 'n'?	<p>1. Contiguous allocation</p> <p>2. Linked allocation</p> <p>3. Direct access</p> <p>4. Sequential access</p>	3.0

S.NO.	Questions	Choices	Answers
1227	Which of the following function is used to terminate the script execution in PHP?	1. break() 2. quit() 3. die() 4. exit()	3.0
1228	Which of the following function sets first n characters of a string to a given character?	1.strset() 2.strnset() 3.strinit() 4.strcset()	2.0
1229	Which of the following grammar rules violate the requirements of an operator grammar ? P, Q, R are nonterminals, and r, s, t are terminals. 1. $P \rightarrow Q \ R$ 2. $P \rightarrow Q \ s \ R$ 3. $P \rightarrow \epsilon$ 4. $P \rightarrow Q \ t \ R \ r$	1. 1 and 3 only 2. 1 only 3. 2 and 3 only 4. 1,2,3 and 4 only	1.0
1230	which of the following intermediate language can be used in intermediate code generation?	1.Postfix notation and Three address code 2.Quadruples 3.Triples 4.Infix notation and two address code	1.0
1231	Which of the following is a black box testing strategy?	1. All Statements Coverage 2. Control Structure Coverage 3. Cause-Effect Graphs 4. ALL	3.0
1232	Which of the following is a comparison operator in SQL?	1. = 2. LIKE 3. BETWEEN 4. all of the options	4.0
1233	Which of the following is a dynamic model that shows how the system interacts with its environment as it is used?	1. system context model 2. interaction model 3. environmental model 4. both system context and interaction	2.0

S.NO.	Questions	Choices	Answers
1234	Which of the following is a legal expression in SQL?	1. SELECT NULL FROM EMPLOYEE; 2. SELECT NAME FROM EMPLOYEE; 3. SELECT NAME FROM EMPLOYEE WHERE SALARY = NULL; 4. None of the options	2.0
1235	Which of the following is a problem of file management system?	1. difficult to update 2. lack of data independence 3. data redundancy 4. all options given	4.0
1236	Which of the following is a project scheduling method that can be applied to software development?	1. PERT 2. CPM 3. CMM 4. both PERT and CPM	4.0
1237	Which of the following is a wrong example of network layer	1.X.25 level 2-ISO 2.Source routing and Domains Naming Usenet 3.X.25 packet land protocols (PLP-ISO) 4.Internet protocol (I/P) ARPA NET	1.0
1238	which of the following is an incorrect definition inside a class ?	1.void * operator new(size_t size) {} 2.void * operator new() {} 3.void operator delete(void * ptr) {} 4.int operator ++() {}	2.0
1239	which of the following is an incorrect definition inside a class ?	1.void * operator new(size_t size) {} 2.void * operator new() {} 3.void operator delete(void * ptr) {} 4.int operator ++() {}	2.0
1240	Which of the following is false for cin?	1.It is a class of which stream is an object. 2.Using cin, the data can be read from user's terminal. 3.It represents standard input. 4.It is an object of istream class.	1.0
1241	Which of the following is golden rule for interface design?	1. Place the user in control 2. Reduce the user's memory load 3. Make the interface consistent 4. ALL	4.0
1242	Which of the following is lowest in memory hierarchy?	1. Cache memory 2. Secondary memory 3. Registers 4. RAM	3.0

S.NO.	Questions	Choices	Answers
1243	Which of the following is not a binary operator in relational algebra?	1. Join 2. Semi-Join 3. Assignment 4. Project	4.0
1244	Which of the following is not a form of memory ?	1. Instruction cache 2. Instruction register 3. Instruction opcode 4. Translation-a-side buffer	3.0
1245	Which of the following is not a property of a transaction?	1. atomicity 2. consistency 3. dirty read 4. durability	4.0
1246	Which of the following is not a SQA plan for a project?	1. evaluations to be performed 2. amount of technical work 3. audits and reviews to be performed 4. documents to be produced by the SQA group	2.0
1247	Which of the following is not a valid attribute of the INPUT tag?	1.TEXT 2.NAME 3.SIZE 4.MAXLENGTH	4.0
1248	Which of the following is NOT a valid PHP comparison operator?	1.!= 2.>= 3.&& 4.==	3.0
1249	Which of the following is not an example of infrastructure components that may need to be integrated into the software architecture?	1. Communications components 2. Database components 3. Interface components 4. Memory management components	2.0
1250	Which of the following is not characteristics of a relational database model	1.Complex logical relationships 2.Treelike structure 3.Tables 4.Records	2.0
1251	Which of the following is not considered as a risk in project management?	1. Specification delays 2. Product competition 3. Testing 4. Staff turnover	4.0

S.NO.	Questions	Choices	Answers
1252	Which of the following is not hardware:	1. Magnetic tape 2. Printer 3. VDU terminal 4. Assembler	4.0
1253	Which of the following is not one of Hooker's core principles of software engineering practice?	1. All design should be as simple as possible, but no simpler 2. A software system exists only to provide value to its users. 3. Pareto principle (20% of any product requires 80% of the effort) 4. 3.0 Remember that you produce others will consume	3.0
1254	Which of the following is not one of the principles of good coding?	1. Create unit tests before you begin coding 2. 3.0 Create a visual layout that aids understanding 3. Keep variable names short so that code is compact 4. Write self-documenting code, not program documentation	4.0
1255	Which of the following is not possible using PHP?	1.Deleting files from the server 2.Redirect a visitor to another page 3.Set the value of the window statusbar 4.Obtain the IP address of a Visitor	4.0
1256	Which of the following is not the attribute of FCB?	1. File permissions 2. Program Counter 3. Access Control List 4. Pointers to file control blocks	4.0
1257	Which of the following is not the characteristic of constructor?	1.They should be declared in the public section. 2.They do not have return type. 3.They can not be inherited. 4.They can be virtual.	4.0
1258	Which of the following is the best type of module cohesion?	1. Functional Cohesion 2. Temporal Cohesion 3. Functional Cohesion 4. Sequential Cohesion	3.0
1259	Which of the following is the worst type of module coupling?	1. Control Coupling 2. Stamp Coupling 3. External Coupling 4. Content Coupling	3.0

S.NO.	Questions	Choices	Answers
1260	Which of the following is TRUE?	1. Every subset of a regular set is regular. 2. Every finite subset of a non-regular set is regular. 3. Every finite subset of a non-regular set is regular. 4. Infinite union of finite sets is regular.	1.0
1261	Which of the following is true?	1. The complement of a recursive language is recursive. 2. The complement of a recursively enumerable language is recursively enumerable 3. The complement of a recursive language is either recursive or recursively enumerable 4. The complement of a context-free language is context-free	1.0
1262	Which of the following is TRUE?	1. Every relation in 2NF is also in BCNF 2. A relation R is in 3NF if every non-prime attribute of R is fully functionally dependent on every key of R 3. Every relation in BCNF is also in 3NF 4. No relation can be in both BCNF and 3NF	3.0
1263	Which of the following is true?	1. Segmentation is faster than paging 2. Paging is faster than segmentation 3. Pages are unequal sized pieces 4. Segments are equal sized pieces	2.0
1264	Which of the following is useful in traversing a given graph by breadth first search?	1.List 2.Queue 3.Set 4.Stack	2.0
1265	Which of the following is valid reason for collecting customer feedback concerning delivered software?	1. Do not allows developers to make changes to the delivered increment 2. 2.0Delivery schedule can be revised to reflect changes 3. Developers can not identify changes to incorporate into next increment 4.Delivery schedule can't be revised to reflect changes	4.0
1266	Which of the following is/are the DDL statements?	1. Create 2. Drop 3. Alter 4. All of the options	4.0

S.NO.	Questions	Choices	Answers
1267	Which of the following languages are context-free? L1 = { $a^m b^n a^m b^n$ m, n ≥ 1} L2 = { $a^m b^n a^m b^n$ m, n ≥ 1} L3 = { $a^m b^n$ m = 2n + 1}	1.L1 and L2 only 2. L1 and L3 only 3. L3 only 4. L1 only	2.0
1268	Which of the following memory allocation scheme suffers from External fragmentation?	1. Segmentation 2. Pure Demand Paging 3. swapping 4. paging	1.0
1269	Which of the following most certainly implies the need for an entire table to implement?	1. A binary relationship 2. A ternary relationship 3. A recursive relationship 4. An identifying relationship	4.0
1270	Which of the following name does not relate to stacks?	1.FIFO lists 2.LIFO list 3.Push-down lists 4.Piles	1.0
1271	Which of the following operation is used if we are interested in only certain columns of a table?	1. PROJECTION 2. SELECTION 3. UNION 4. JOIN	1.0
1272	Which of the following operator can be overloaded through friend function?	1.-> 2.= 3.() 4.*	4.0
1273	Which of the following operators has an associativity from Right to Left?	1.+= 2.== 3.<< 4.<=	3.0
1274	Which of the following pattern is the basis of interaction management in many web-based systems?	1. architecture 2. repository pattern 3. model-view-controller 4. different operating system	3.0
1275	Which of the following problems is undecidable?	1. Membership problem for CFGs 2. Ambiguity problem for CFGs. 3. Finiteness problem for FSAs 4. Equivalence problem for FSAs.	2.0

S.NO.	Questions	Choices	Answers
1276	Which of the following problems is undecidable?	1. Deciding if a given context-free grammar is ambiguous. 2. Deciding if a given string is generated by a given context-free grammar 3. Deciding if the language generated by a given context-free grammar is empty 4. Deciding if the language generated by a given context-free grammar is finite.	1.0
1277	Which of the following process is concerned with analyzing the costs and benefits of proposed changes?	1. Change management 2. Version management 3. System building 4. Release management	1.0
1278	Which of the following property allows you to specify an element's position with respect to the browser window?	1.relative 2.fixed 3.static 4.absolute	1.0
1279	Which of the following risk is the failure of a purchased component to perform as expected?	1. Product risk 2. Project risk 3. Business risk 4. Programming risk	1.0
1280	Which of the following risks are derived from the organizational environment where the software is being developed?	1. People risks 2. Technology risks 3. Estimation risks 4. Organizational risks	4.0
1281	Which of the following risks are derived from the software or hardware technologies that are used to develop the system?	1. Managerial risks 2. Technology risks 3. Estimation risks 4. Organizational risks	2.0
1282	Which of the following statements about queues is incorrect?	1.Queues are first-in, first-out (FIFO) data structures 2.Queues can be implemented using arrays 3.Queues can be implemented using linked lists 4.New nodes can only be added at the front of the queue	4.0
1283	Which of the following statements are true in c++?	1.Class members are public by default. 2.Structures can not have functions as members. 3.Classes can not have data as public members. 4.Structures can have functions	1.0

S.NO.	Questions	Choices	Answers
1284	<p>Which of the following statements are TRUE?</p> <p>I. There exist parsing algorithms for some programming languages whose complexities are less than $O(n^3)$. II. A programming language which allows recursion can be implemented with static storage allocation. III. No L-attributed definition can be evaluated in the framework of bottom-up parsing. IV. Code improving transformations can be performed at both source language and intermediate code level.</p>	<p>1. I and II 2. I and IV 3. III and IV 4. I, II and III</p>	2.0
1285	Which of the following statements best describes the operation of a synchronous up-/down-counter?	<p>1. In general, the counter can be reversed at any point in its counting sequence. 2. The counter can be reversed, but must be reset before counting in the other direction. 3. The counter can count in either direction, but must continue in that direction once started. 4. The count sequence cannot be reversed, once it has begun, without first resetting the counter to zero.</p>	1.0
1286	Which of the following statements explains portability in non-functional requirements?	<p>1. It is a degree to which software running on one platform can easily be converted to run on another platform. 2. It can be enhanced by using languages, OS' and tools that are universally available and standardized. 3. The ability of the system to behave consistently in a user-acceptable manner when operating within the environment for which the system was intended. 4. It is a degree to which software running on one platform can easily be converted to run on another platform as well as it can be enhanced by using languages, OS' and tools that are universally available and standardized.</p>	1.0
1287	Which of the following statements is false?	<p>1. Every NFA can be converted to an equivalent DFA 2. Every non-deterministic Turing machine can be converted to an equivalent deterministic Turing machine 3. Every regular language is also a context-free language 4. Every subset of a recursively enumerable set is recursive</p>	4.0
1288	Which of the following statements is NOT valid about operator overloading?	<p>1. Overloaded operator must have at least one operand of its class type. 2. Only existing operators can be overloaded. 3. The overloaded operators follow the syntax rules of the original operator. 4. The arity of the operator can be changed</p>	3.0
1289	Which of the following statements is NOT valid about operator overloading?	<p>1. Overloaded operator must have at least one operand of its class type. 2. Only existing operators can be overloaded. 3. The overloaded operators follow the syntax rules of the original operator. 4. The arity of the operator can be changed</p>	4.0
1290	Which of the following statements is true?	<p>1. An INPUT field of type password provides excellent security 2. An INPUT field of type password provides a masked field but no real security 3. A maximum length can not be set for a password field 4. A password INPUT field can only be included in a FORM that uses the get METHOD</p>	4.0
1291	Which of the following statements is true?	<p>1. Quadruples have some disadvantages over triples notation for an optimizing compiler 2. For optimizing compiler, moving a statement that defines a temporary value requires us to change all references to that statements. It is an overhead for triples notation 3. For optimizing compiler, triples notation has important benefit where statements are often moved around as it incurs no movements or change 4. All the statements are false</p>	2.0
1292	Which of the following statements is/are TRUE for an undirected graph? P: Number of odd degree vertices is even, Q: Sum of degrees of all vertices is even	1. P Only 2. Q Only 3. Both P and Q 4. Neither P nor Q	1.0
1293	Which of the following statements is/are TRUE for an undirected graph? P: Number of odd degree vertices is even, Q: Sum of degrees of all vertices is even	1. P Only 2. Q Only 3. Both P and Q 4. Neither P nor Q	1.0

S.NO.	Questions	Choices	Answers
1294	Which of the following strategies means that the impact of the risk will be reduced?	1. Avoidance strategies 2. Minimization strategies 3. Contingency plans 4. ALL	2.0
1295	Which of the following system calls results in the sending of SYN packets?	1. socket 2. bind 3. listen 4. connect	4.0
1296	Which of the following term is best defined by the statement “The creation of a new codeline from a version in an existing codeline”?	1. Branching 2. Merging 3. Codeline 4. Mainline	1.0
1297	Which of the following term is best defined by the statement: “Derive traceability information to maximize information hiding in the design.”?	1. Underestimated development time 2. Organizational restructuring 3. Requirements changes 4. None	3.0
1298	Which of the following term is best defined by the statement: “The underlying technology on which the system is built is superseded by new technology.”?	1. Technology change 2. Product competition 3. Requirements change 4. None	1.0
1299	Which of the following term is best defined by the statement: “There will be a change of organizational management with different priorities.”?	1. Staff turnover 2. Technology change 3. Management change 4. Product competition	3.0

S.NO.	Questions	Choices	Answers
1300	Which of the following traits need to exist among the members of an agile software team?	1. Competence 2. Decision-making ability 3. Mutual trust and respect 4. ALL	4.0
1301	Which of the following tree may have smaller elements in its left subtree and larger element in its right subtree	1.B+ Tree 2.AVL Tree 3.Binary tree 4.Binary search Tree	4.0
1302	Which of the following ways below is correct to write a CSS?	1.p {color:red;text-align:center}; 2.p {color:red;text-align:center} 3.p {color:red;text-align:center;} 4.p (color:red;text-align:center;)	3.0
1303	Which of the following would cause quickest access	1. direct access from a magnetic tape 2. direct access from a hard disk 3. direct access from a floppy disk 4. direct access from a cassette tape	2.0
1304	Which of the regular expressions given below represent the following DFA? I) $0^*1(1+00^*)^*$ II) $0^*1^*11^*0^*$ III) $(0+1)^*$	1. I and II only 2. I and III only 3. II and III only 4. I,II,III	3.0
1305	Which of these contains an executable statement?	1.// var a = 0; // var b = 0; 2./* var a = 0; // var b = 0; */ 3./* var a = 0; */ var b = 0; 4.// var a = 0; /* var b = 0; */	3.0
1306	Which of these does not belong to the basic principles of good product design ?	1. Adequacy 2. Feasibility 3. Portability 4. Economy	4.0
1307	Which of these framework activities is not normally associated with the user interface design processes?	1. cost estimation 2. 1.0interface construction 3. interface validation 4. user and task analysis	3.0

S.NO.	Questions	Choices	Answers
1308	Which of these is incorrect ?	1. Software engineering belongs to Computer science 2. Software engineering is a part of more general form of System Engineering 3. Computer science belongs to Software engineering 4. Software engineering is concerned with the practicalities of developing and delivering useful software	3.0
1309	Which of these is not an element of an object-oriented analysis model?	1. Behavioral elements 2. Class-based elements 3. Data elements 4. Scenario-based elements	4.0
1310	Which of these sets of HTML5 attributes can be used for form validation?	1.required, pattern, min and max 2.auto, fixed, number 3.number, text, currency 4.input, radio,checkbox	1.0
1311	Which one is not a self complementary code?	1.8 4 -2 -1 2.4 8 1 2 3.4 4 3 -2 4.2 4 2 1	3.0
1312	Which one of the following is currently the most popular data model?	1.Network Model 2.Object Model 3.Notation Model 4.Relational Model	4.0
1313	Which one of the file allocation scheme cannot be adopted for dynamic storage allocation	1. Linked allocation 2. Fixed Indexed allocation 3. Variable Indexed allocation 4. Contiguous allocation	2.0
1314	Which one of the following algorithm is not used in asymmetric-key cryptography?	1. RSA algorithm 2. diffie-hellman algorithm 3. electronic code book algorithm 4. ECC	3.0
1315	Which one of the following allows a user at one site to establish a connection to another site and then pass keystrokes from local host to remote host?	1. HTTP 2. FTP 3. telnet 4. none of the mentioned	3.0
1316	Which one of the following correctly describes the meaning of 'namespace' feature in C++?	1.namespaces provide facilities for organizing the names in a program to avoid name clashes 2.Namespaces refer to space between the names in a program 3.Namespaces refer to the memory space allocated for names used in a program 4.Namespaces refer to the space for names.	1.0

S.NO.	Questions	Choices	Answers
1317	Which one of the following event is not possible in wireless LAN.	1. collision detection 2. Acknowledgement of data frames 3. multi-mode data transmission 4. none of the mentioned	1.0
1318	Which one of the following is a cryptographic protocol used to secure HTTP connection?	1. stream control transmission protocol (SCTP) 2. transport layer security (TSL) 3. explicit congestion notification (ECN) 4. resource reservation protocol	2.0
1319	Which one of the following is a requirement that fits in a developer's module ?	1. Availability 2. Testability 3. Usability 4. Flexibility	2.0
1320	Which one of the following is an internet standard protocol for managing devices on IP network?	1. dynamic host configuration protocol 2. simple network management protocol 3. internet message access protocol 4. media gateway protocol	2.0
1321	Which one of the following is FALSE?	1. A basic block is a sequence of instructions where control enters the sequence at the beginning and exits at the end. 2. Available expression analysis can be used for common subexpression elimination. 3. Live variable analysis can be used for dead code elimination. 4. $x = 4 * 5 \Rightarrow x = 20$ is an example of common subexpression elimination.	2.0

S.NO.	Questions	Choices	Answers
1322	Which one of the following is FALSE?	1. There is unique minimal DFA for every regular language 2. Every NFA can be converted to an equivalent PDA 3. Complement of every context-free language is recursive 4. Every nondeterministic PDA can be converted to an equivalent deterministic PDA	4.0
1323	Which one of the following is not a step of requirement engineering?	1. Elicitation 2. Design a model 3. Analysis 4. Documentation	2.0
1324	Which one of the following is not a windows file system?	1. FAT 2. NTFS 3. FAT32 4. EXT	4.0
1325	Which one of the following is not an application layer protocol?	1. media gateway protocol 2. dynamic host configuration protocol 3. resource reservation protocol 4. session initiation protocol	3.0
1326	Which one of the following is not correct?	1. application layer protocols are used by both source and destination devices during a communication session 2. application layer protocols implemented on the source and destination host must match 3. both the options 4.	3.0
1327	Which one of the following is not the process of Deadlock Recovery?	1. Killing a process 2. Rollback to the previous state 3. Selecting a Victim 4. Delaying the process	4.0

S.NO.	Questions	Choices	Answers
1328	Which one of the following is not the responsibility of the DBA?	1.provide security 2.develop applications 3.periodically tunes the database 4.restores the system after a failure	2.0
1329	Which one of the following is the recurrence equation for the worst case time complexity of the Quicksort algorithm for sorting $n \geq 2$ numbers? In the recurrence equations given in the options below, c is a constant.	1. $T(n)=2T(n/2)+cn$ 2. $T(n)=T(n-1)+T(0)+cn$ 3. $T(n)=T(n/2)+cn$ 4. $T(n)=2T(n-2)+cn$	1.0
1330	Which one of the following is the very first task executed by a session enabled page?	1.Delete the previous session 2.Start a new session 3.Check whether a valid session exists 4.Handle the session	3.0
1331	Which one of the following is True at any valid state in shift-reduce parsing?	1. Viable prefixes appear only at the bottom of the stack and not inside 2. Viable prefixes appear only at the top of the stack and not inside 3. The stack contains only a set of viable prefixes 4. The stack never contains viable prefixes	3.0
1332	Which one of the following is used as the start frame delimiter in ethernet frame?	1. 10101010 2. 10101011 3. 00000000 4. 11111111	2.0
1333	Which one of the following languages over the alphabet {0,1} is described by the regular expression: $(0+1)^*0(0+1)^*0(0+1)^*$?	1. The set of all strings containing the substring 00. 2. The set of all strings containing at most two 0's. 3. The set of all strings containing at least two 0's. 4. The set of all strings that begin and end with either 0 or 1.	3.0
1334	Which one of the following models is not suitable for accommodating any change?	1. Build & Fix Model 2. Prototyping Model 3. RAD model 4. Waterfall Model	4.0
1335	Which one of the following modulation scheme is supported by WiMAX?	1. binary phase shift keying modulation 2. quadrature phase shift keying modulation 3. quadrature amplitude modulation 4. all of the mentioned	4.0

S.NO.	Questions	Choices	Answers
1336	Which one of the following protocol delivers/stores mail to receiver server?	1. simple mail transfer protocol 2. post office protocol 3. internet mail access protocol 4. hypertext transfer protocol	1.0
1337	Which one of the following regular expressions over {0, 1} denotes the set of all strings not containing 100 as a substring (a) 0*(11)*0* (b) (0*1010)* (c) 0*1*010 (d) 0*(10)*01*	1. a and b 2. b and c 3. only c 4. only b	14.0
1338	Which one of the following statements is FALSE?	1. Any relation with two attributes is in BCNF 2. A relation in which every key has only one attribute is in 2NF 3. A prime attribute can be transitively dependent on a key in a 3 NF relation. 4. A prime attribute can be transitively dependent on a key in a BCNF relation.	4.0
1339	Which one of the following uses 8B/6T encoding scheme	1.100 Base-T1 2.100 Base-T4 3.100 Base TX 4.100 Base-FX	2.0
1340	Which property is used to obtain browser vendor and version information?	1.modal 2.version 3.browser 4.navigator	4.0
1341	Which protocol is a signalling communication protocol used for controlling multimedia communication sessions?	1. session initiation protocol 2. session modelling protocol 3. session maintenance protocol 4. none of the mentioned	1.0
1342	Which question no longer concerns the modern software engineer?	1. Why does computer hardware cost so much? 2. Why does software take a long time to finish? 3. Why does it cost so much to develop a piece of software? 4. Why can't software errors be removed from products prior to delivery?	1.0
1343	Which searching technique is better, if unsorted array is given as input	1.Radix search 2.Linear search 3.Binary search 4.Indexd sequential search	2.0
1344	Which segments of a seven-segment display would be active to display the decimal digit 2?	1.a, c, d, f, and g 2.a, b, c, d, and g 3.a, b, d, e, and g 4.a, b, c, d, e, and f	3.0

S.NO.	Questions	Choices	Answers
1345	Which SQL functions is used to count the number of rows in a SQL query?	1. Sum 2. Count 3. Max 4. ALL	2.0
1346	Which statement does not require semicolon?	1. goto xyz 2. int x = 20 3. #define MAX 100 4. do {... }while(count<=100)	3.0
1347	Which statement is true:	1.Standard form must consists of minterms 2.All standard form are canonical forms 3.Canonical form can consist of a term with a literal missing 4.All canonical form are standard form	1.0
1348	Which transmission media has the highest transmission speed in a network?	1. coaxial cable 2. twisted pair cable 3. optical fiber 4. electrical cable	3.0
1349	Which of these is a stand alone tag?	1. form 2. frame 3. table 4. anchor	2.0
1350	While inserting the elements 71,65,84,69,67,83 in an empty binary search tree(BST)in the sequence shown, the element in the lowest level is	1.65 2.67 3.83 4.69	2.0
1351	Why 'critical section' is not imposed on file systems instead 'file locks' when more than one process tries to access the file?	1. Time consuming 2. Process entered in to critical section may close the file 3. we cannot satify the three conditions of mutual exclusion, progress and bounded waiting 4. we cannot use semaphore	3.0

S.NO.	Questions	Choices	Answers
1352	WiMAX MAC layer provides an interface between	1. higher transport layers and physical layer 2. application layer and network layer 3. data link layer and network layer 4. none of the mentioned	1.0
1353	WiMAX provides	1. simplex communication 2. half duplex communication 3. full duplex communication 4. none of the mentioned	2.0
1354	WiMAX stands for	1. wireless maximum communication 2. worldwide interoperability for microwave access 3. worldwide international standard for microwave access 4. none of the mentioned	2.0
1355	WiMAX uses the	1. orthogonal frequency division multiplexing 2. time division multiplexing 3. space division multiplexing 4. all of the mentioned	1.0
1356	Wireless transmission can be done via	1. radio waves 2. microwaves 3. infrared 4. all of the mentioned	4.0
1357	Write Through technique is used in which memory for updating the data _____.	1. Virtual memory 2. Main memory 3. Auxiliary memory 4. Cache memory	4.0
1358	You can find the element you want to manipulate by _____ way?	1.getElementById() 2.getElementsByTagName() 3.getElementsByClassName() 4.All of the these	4.0

S.NO.	Questions	Choices	Answers
1359	You have an array of n elements. Suppose you implement quicksort by always choosing the central element of the array as the pivot. Then the tightest upper bound for the worst case performance is	1.O(log n) 2.O(n) 3.O(n^2) 4.O(1)	3.0
1360	You have to sort a list L consisting of a sorted list followed by a few “random” elements. Which of the following sorting methods would be especially suitable for such a task?	1.Bubble sort 2.Selection sort 3.Quick sort 4.Insertion sort	4.0
1361	You need to check the size of a file in PHP function. \$size = X(filename); Which function will suitably replace 'X'?	1. filesize 2. size 3. sizeoffile 4. getSize	1.0
1362	‘Aging registers’ are _____.	1. Counters which indicate how long ago their associated pages have been referenced. 2. Registers which keep track of when the program was last accessed 3. Counters to keep track of last accessed instruction 4. Counters to keep track of the latest data structures referred	1.0

1.The Rectangles divided into two parts represents

1.Entity set

2.Relationship set

3.Attributes of a relationship set

4.Primary key

2.To perform product of maxterms Boolean function must be brought into

1.AND terms

2.OR terms

3.NOT terms

4.NAND terms

3.Four gates in a package is called.

1.biruple

2.octruple

3.dualtuple.

4.quadruple

4.Main function of shared memory is:

1.to use primary memory efficiently

2.to do intra process communication

3.to do inter process communication

4.to use secondary memory efficiently

5.DBMS periodically suspends all processing and synchronizes its files and journals through the use of

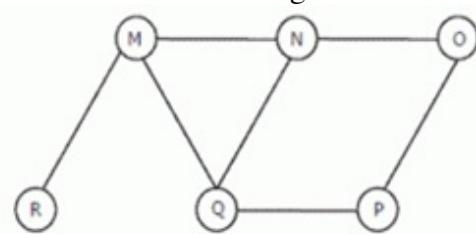
1.Checkpoint facility

2.Backup facility

3.Recovery manager

4.Database change log

6.The Breadth First Search algorithm has been implemented using the queue data structure. One possible order of visiting the nodes of the following graph is



1.MNOPQR

2.NQMPOR

3.QMNPOR

4.QMNPOR

7.Who is considered as the creator of JAVA ?

1.Dennis Richie

2.Ken Thompson

3.James Gosling

4.Bjarne Stroustrup

8. _____ encapsulates core data and functionality.

- 1.model
- 2.view
- 3.controller
- 4.facade

9. Round robin scheduling is essentially the preemptive version of _____ ?

- 1.FIFO
- 2.Shortest job first
- 3.Shortest remaining
- 4.Longest time first

10. Adder subtractor operating on mode 1 at (X xor 1) gives

- 1.1
- 2.0
- 3.x
- 4. x'

11. Which of this is not a implementation data model

- 1.UML
- 2.Relational
- 3.Hierarchical
- 4.network

12. Aposterior analysis are more accurate than apriori analysis because –

- 1.It contains the real data
- 2.It assumes all other factors to be dynamic
- 3.It assumes all other factors to be constant
- 4.It is a result of reverse-engineering

13. Memory unit accessed by content is called _____.

- 1.Read only memory
- 2.Programmable Memory
- 3.Virtual Memory
- 4.Associative Memory

14. MIMD stands for _____.

- 1.Multiple instruction multiple data
- 2.Multiple instruction memory data
- 3.Memory instruction multiple data
- 4.Multiple information memory data

15. Microprocessor 8085 is the enhanced version of with essentially the same construction set

- 1.8080
- 2.8088
- 3.8800
- 4.6800

16. Which technique helps processor to run a program concurrently with input output operations ?

- 1.IOP
- 2.DMA

3. Interrupt driven I/O

4. DCA

17. The name of the transaction file shall be provided by the operator and the file that contains the edited transactions ready for execution shall be called

- 1. Batch. Exe
- 2. Trans. Exe
- 3. Opt. Exe**
- 4. Edit.Exe

18. _____ show task dependencies and the critical path

1. Activity charts

- 2. Bar chart
- 3. State chart
- 4. Event chart

19. _____ state in a state chart is shown as a circle surrounding a small dot, a bull's-eye.

- 1. Initial
- 2. Middle
- 3. Intermediate
- 4. Final**

20. Shift register whose input is connected to select output is called

- 1. feedback shift register**
- 2. bidirectional shift register
- 3. unidirectional shift register
- 4. ring shift register

A _____ can be viewed as a snapshot of a system's parameters at rest or at a specific point in time.	<ul style="list-style-type: none">1. Dynamic model2. Static model3. Event model.4. Working model		
_____ are a natural way to structure requirements elicitation	<ul style="list-style-type: none">1. DBMS2. Viewpoints3. Process model4. Methods		

Garbage Collection in java is done by who?	1. Java Compiler 2. Object class 3. System class 4. JVM			
No of NAND gate is	1. 7000 2. 7200 3. 7400 4. 7800			
"Can the requirement be changed without a large impact on other requirements?", is related to _____	1. Comprehensibility 2. Verifiability 3. Adaptability. 4. Traceability			

<p>Single link list performs which of the following methods</p> <p>1) Insertion 2) Modification 3) Searching</p>	<ol style="list-style-type: none"> 1. 2 and 3 3. 1 and 3 4. 1, 2, 3 		
<p>_____ is the deadlock free lock</p>	<ol style="list-style-type: none"> 1. 2. Conservative 2PL 3. 4. 		
<p>The list with no node is called as</p>	<ol style="list-style-type: none"> 1. Empty list 2. 3. 4. 		

<p>MAX heap can be used to sort the data in an _____</p>	<ol style="list-style-type: none"> 1. Ascending order 2. Descending order 3. Both ascending or descending order 4. Random order 			
<p>Requirements that change due to the system's environment is said to be _____</p>	<ol style="list-style-type: none"> 1. Mutable requirements 2. Compatibility requirements 3. Emergent requirements 4. Consequential requirements 			
<p>A process executes the code <code>fork();</code> <code>fork();</code> <code>fork();</code> The total number of child processes created is</p>	<ol style="list-style-type: none"> 1.3 2.4 3.7 4.8 			
<p>" Is the requirement properly understood? ", relates to _____</p>	<ol style="list-style-type: none"> 1. Traceability 2. Comprehensibility. 3. Adaptability 4. Verifiability 			

<p>A _____ is the one that has a high probability of detecting an as-yet undiscovered error</p>	<ol style="list-style-type: none"> 1. bad test cases 2. good test cases 3. average test cases 4. worst test cases 		
<p>Instruction that are used for reading from memory by an IOP called ?</p>	<ol style="list-style-type: none"> 1. Commands 2. Pulses 3. Blocks 4. Interrupt 		
<p>A _____ strategy can detect the serious flaws early in the implementation.</p>	<ol style="list-style-type: none"> 1. bottom up testing 2. testing 3. top down testing 4. integration testing 		
<p>A _____ is an implementation of an object's behavior</p>	<ol style="list-style-type: none"> 1. method 2. attribute 3. class 4. object 		

	<p>If an odd parity is adopted, parity bit is chosen in such that total no of 1's is</p> <ol style="list-style-type: none"> 1. odd 2. even 3. positive 4. negative 		
Flipflops are	<ol style="list-style-type: none"> 1. level triggered 2. edge triggered 3. clock triggered 4. pulse triggered 		
Reduction of flip-flops in a sequential circuit is referred to as	<ol style="list-style-type: none"> 1. reduction 2. state reduction 3. next state 4. Assignment 		

<p>Switch which clears flipflop to its initial state is called</p>	<ol style="list-style-type: none"> 1. clock 2. invert 3. hold 4. clear 			
<p>Making of transition table consists of</p>	<ol style="list-style-type: none"> 1. 2 steps 2. 4 steps 3. 5 steps 4. 6 steps 			
<p>In T flipflop when state of T flipflop has to be complemented T must be</p>	<ol style="list-style-type: none"> 1. 0 2. 1 3. t 4. t+1 			

	<p>Time sequence for flip-flop can be enumerated by</p> <ol style="list-style-type: none"> 1. state table 2. map 3. truth table 4. graph 		
Table that lists inputs for required change of states is called	<ol style="list-style-type: none"> 1. truth table 2. excitation table 3. state table 4. clock table 		
Classification of sequential circuit depends on timings of their	<ol style="list-style-type: none"> 1. feedback path 2. gates 3. signals 4. complex circuits 		

<p>A flipflop can maintain a</p>	<ol style="list-style-type: none"> 1. n states 2. tri state 3. binary state 4. octa state 	
<p>Which of the following is the application of the singly linked list?</p>	<ol style="list-style-type: none"> 1. Sparse matrix 2. Polish notation 3. Tower of Hanoi 4. Polynomial Addition 	
<p>Clock generator, generates periodic train of</p>	<ol style="list-style-type: none"> 1. feedback path 2. gates 3. clock pulses 4. sine pulses 	

Which of the following will contain more memory space?

1.
Singly linked list

2.
Doubly linked list

3.
Array

4.
Circular linked list

In polynomial manipulation, nodes consists of three field representing

1.
Coefficient, exponential
and link

2.
Previous item link, data
item, next item link

3.
Coefficient, data item and
link

4.
Link, Coefficient and
exponential

A singly linked list facilitates list traversal in

1.
Single direction

2.
Any direction

3.
Circular direction

4.
Reverse direction

A doubly linked list facilitates list traversal in	1. Single direction 2. Any direction 3. Circular direction 4. Revere direction	
Linked list START=NULL is	1. Underflow 2. Overflow 3. Full 4. Empty	
In a linked list, the pointer of the last node contains	1. Link to the first node 2. NULL 3. Link 4. Pointer to the tail node	

	<p>In which linked list, nodes in form of ring?</p>	<ol style="list-style-type: none"> 1. Singly linked list 2. Doubly linked list 3. Circular linked list 4. Linked Stack 		
	<p>Balancing symbol is a application of _____.</p>	<ol style="list-style-type: none"> 1. Singly linked list 2. Doubly linked list 3. Doubly linked list 4. Linked stack 		
	<p>Which of the following pair of data structures are both non-linear type?</p>	<ol style="list-style-type: none"> 1. Stack, Graph 2. Stack, Linked List 3. Tree, Linked List 4. Tree, Graph 		
	<p>The depth of a complete binary tree is given by</p>	<ol style="list-style-type: none"> 1. $n \log n$ 2. $n \log n + 1$ 3. $\log n$ 4. $\log n + 1$ 		

	<p>Four different attributes to control traffic have been devised in</p> <ol style="list-style-type: none"> 1. IP Relay 2. Data Relay 3. Source Relay 4. Frame Relay 		
In flipflop if set input is returned to 0, output	<ol style="list-style-type: none"> 1. changes 2. inverts 3. remain same 4. complements 		
By default counters are incremented by	<ol style="list-style-type: none"> 1. 1 2. 2 3. 3 4. 4 		

<p>Simplest registers only consists of</p>	<ol style="list-style-type: none"> 1. counter 2. EPROM 3. latch 4. flipflop 	
<p>A decimal counter has</p>	<ol style="list-style-type: none"> 1. 5 states 2. 10 states 3. 15 states 4. 20 states 	
<p>Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. How many leaves does it have?</p>	<ol style="list-style-type: none"> 1. 2 4 7 9 	
<p>Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. How many of the nodes have at least one sibling?</p>	<ol style="list-style-type: none"> 1. 2 4 3 9 	

<p>Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. What is the value stored in the parent node of the node containing 30?</p>	<p>1. 2 3. 4.</p> <p>11</p> <p>14</p>	
<p>Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. How many descendants does the root have?</p>	<p>1. 2 3. 4.</p> <p>8</p> <p>9</p>	
<p>Identify the correct sequence in which the following packets are transmitted on the network by a host when a browser requests a webpage from a remote server, assuming that the host has just been restarted.</p>	<p>1. HTTP GET request, DNS query, TCP SYN</p> <p>2. DNS query, HTTP GET request, TCP SYN</p> <p>3. DNS query, TCP SYN, HTTP GET request</p> <p>4. TCP SYN, DNS query, HTTP GET request</p>	
<p>Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. How many children does the root have?</p>	<p>1. 2 3. 4.</p> <p>8</p> <p>9</p>	

<p>Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. What is the depth of the tree?</p>	<ol style="list-style-type: none"> 1. 2. 3. 4. 9 	
<p>Which of the following statement is false?</p>	<ol style="list-style-type: none"> 1. Every tree is a bipartite graph 2. A tree contains cycle 3. A tree with n nodes contains n-1 edges 4. A tree is connected graph 	
<p>Simplified form of the boolean expression $(X + Y + XY)(X + Z)$ is</p>	<ol style="list-style-type: none"> 1. $X + Y + Z$ 2. $XY + YZ$ 3. $X + YZ$ 4. $XZ + Y$ 	
<p>A full binary tree with n leaves contains _____ nodes</p>	<ol style="list-style-type: none"> 1. n 2. $\log n$ 3. $2n - 1$ 4. $2n+1$ 	

<p>A full binary tree with n non-leaf nodes contains _____ nodes</p>	<ol style="list-style-type: none"> 1. $\log n$ 2. 2^n 3. $2n - 1$ 4. $2n + 1$ 	
<p>A complete binary tree of level 5 has how many nodes?</p>	<ol style="list-style-type: none"> 1. 15 2. 63 3. 25 4. 30 	
<p>Traversing binary tree first root and then left and right subtrees called _____ traversal.</p>	<ol style="list-style-type: none"> 1. Postorder 2. Preorder 3. In order 4. Binary order 	
<p>The maximum number of nodes on level i of a binary tree is</p>	<ol style="list-style-type: none"> 1. 2^i 2. 3^i 3. $i + 1$ 4. $2i+2$ 	

<p>A binary tree is generated by inserting in order of the following integers: 50, 15, 62, 5, 20, 58, 3, 8, 37, 60, 24 the number of nodes in the left of the root respectively is</p>	<ol style="list-style-type: none"> 1. (3,7) 2. (7,3) 3. (4,6) 4. (6,4) 	
<p>Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. Which pair of nodes have equal number of descendants?</p>	<ol style="list-style-type: none"> 1. (2,11) 2. (1,3) 3. (10,30) 4. (7,14) 	
<p>What kind of list is best to answer questions such as "What is the item at position n?"</p>	<ol style="list-style-type: none"> 1. Lists implemented with an array 2. Doubly-linked lists 3. Singly-linked lists 4. Doubly-linked or singly-linked lists are equally best 	

<p>Which of the following is not the operation on Queue?</p>	<ol style="list-style-type: none"> 1. Insertion 2. Deletion 3. Updating 4. Displaying 	
<p>In C programming, when we remove an item from bottom of the stack, then –</p>	<ol style="list-style-type: none"> 1. The stack will fall down 2. Stack will rearrange items 3. It will convert to LIFO 4. This operation is not allowed 	
<p>Re-balancing of AVL tree costs</p>	<ol style="list-style-type: none"> 1. $O(1)$ 2. $O(\log n)$ 3. $O(n)$ 4. $O(n^2)$ 	

Decimal digit in BCD can be represented by	1. 1 input line 2. 2 input lines 3. 3 input lines 4. 4 input lines	
Memory that is called a read write memory is	1. ROM 2. EPROM 3. RAM 4. Registers	
Which of the following can be a multivalued attribute ?	1. Phone_number 2. Register Number 3. Date_of_birth 4. All of the mentioned	

<p>Which of the following sorting method is unstable?</p>	<ol style="list-style-type: none"> 1. Insertion 2. Bubble 3. Selection 4. Heap 	
<p>The number of swapping needed to sort the numbers 8, 22, 7, 9, 31, 19, 5, 13 in ascending order, using insertion sort is</p>	<ol style="list-style-type: none"> 1. 11 2. 12 3. 13 4. 14 	
<p>What is the worst-case time for serial search finding a single item in an array?</p>	<ol style="list-style-type: none"> 1. Constant time 2. Logarithmic time 3. Linear time 4. Quadratic time 	

<p>Which of the following is not a limitation of binary search algorithm?</p>	<ol style="list-style-type: none"> 1. Must use a sorted array 2. Requirement of sorted array is expensive when a lot of insertion and deletions are needed 3. There must be a mechanism to access middle element directly 4. Binary search algorithm is not efficient when the data elements are more than 1000. 		
<p>Binary search algorithm cannot be applied to</p>	<ol style="list-style-type: none"> 1. sorted linked list 2. sorted binary trees 3. sorted linear array 4. pointer array 		

<p>Which of the following case does not exist in complexity theory</p>	<ol style="list-style-type: none"> 1. Best case 2. Worst case 3. Average case 4. Null case 	
<p>The Worst case occur in linear search algorithm when</p>	<ol style="list-style-type: none"> 1. Item is somewhere in the middle of array 2. Item is not in the array at all 3. Item is the last element in the array 4. Item is the last element in the array or is not there at all 	

<p>The average case occur in linear search algorithm</p>	<ol style="list-style-type: none"> 1. When item is somewhere in the middle of the array 2. When item is not in the array at all 3. When item is the last element in the array 4. When item is the last element in the array or is not there at all 	
<p>The time complexity of linear search algorithm over an array of n element is</p>	<ol style="list-style-type: none"> 1. $O(\log_2 n)$ 2. $O(n)$ 3. $O(n \log_2 n)$ 4. $O(n^2)$ 	
<p>Prim's algorithm follows _____ search</p>	<ol style="list-style-type: none"> 1. Global 2. Local 3. Binary 4. Linear 	

<p>Kruskal algorithm follows _____ approach.</p>	<ol style="list-style-type: none"> 1. Divide and Conquer 2. Dynamic programming 3. Greedy 4. Backtracking 	
<p>The measure of the average length of words and sentences in documents is termed as _____.</p>	<ol style="list-style-type: none"> 1. coupling 2. Fog index 3. cohesion 4. fan in 	
<p>2 left shifts are referred to as multiplication with</p>	<ol style="list-style-type: none"> 1. 2 3. 4. 5. 6. 7. 8 9. 10. 11. 12. 13. 14. 15. 16 	
<p>Ripple counters are also called</p>	<ol style="list-style-type: none"> 1. SSI counters 2. asynchronous counters 3. synchronous counters 4. VLSI counters 	

<p>Binary counter that count incrementally and decremently is called</p>	<ol style="list-style-type: none"> 1. up-down counter 2. LSI counters 3. down counter 4. up counter 	
<p>Shift registers having four bits will enable shift control signal for</p>	<ol style="list-style-type: none"> 1. 2 clock pulses 2. 3 clock pulses 3. 4 clock pulses 4. 5 clock pulses 	
<p>A group of binary cells is called</p>	<ol style="list-style-type: none"> 1. counter 2. register 3. latch 4. flipflop 	

<p>A 8bit flip-flop will have</p>	<ol style="list-style-type: none"> 1. 2 binary cells 2. 4 binary cells 3. 6 binary cells 4. 8 binary cells 	
<p>Parallel load transfer is done in</p>	<ol style="list-style-type: none"> 1. 1 cycle 2. 2 cycle 3. 3 cycle 4. 4 cycle 	
<p>COTS stands for_____</p>	<ol style="list-style-type: none"> 1. Commercial Off-The-Shelf systems 2. Commercial Off-The-Shelf states 3. Commercial Off-The-System state 4. Commercial Off The System 	

<p>_____ testing exercises the system beyond its maximum design load .</p>	<ol style="list-style-type: none"> 1. usability 2. stress 3. acceptance 4. beta 	
<p>To start counting enable input should be</p>	<ol style="list-style-type: none"> 1. 0 2. 1 3. reset 4. clear 	
<p>Which of the following is a procedure for acquiring the necessary locks for a transaction where all necessary locks are acquired before any are released?</p>	<ol style="list-style-type: none"> 1. Record controller 2. Exclusive lock 3. Authorization rule 4. Two phase lock 	

<p>-----contains the word to be stored in memory or just received from memory</p>	<ol style="list-style-type: none"> 1. Memory Buffer Register 2. Memory Address Register 3. Instruction Register 4. Program Counter 	
<p>Ripple counter can not be described by</p>	<ol style="list-style-type: none"> 1. Boolean equation 2. clock duration 3. graph 4. flow chart 	
<p>-----contains the 8-bit opcode currently being executed.</p>	<ol style="list-style-type: none"> 1. Memory Address Register 2. Instruction Register 3. Memory Buffer Register 4. Program Pointer 	

<p>The ___ defines the types of documents to be managed and a document naming scheme</p>	<ol style="list-style-type: none"> 1. CM plan 2. project plan 3. Baseline 4. CI plan 			
<p>Time between clock pulses are called</p>	<ol style="list-style-type: none"> 1. bit duration 2. clock duration 3. duration 4. bit time 			
<p>_____ are an alternative function-related measure to function points when 4GLs or similar languages are used for development</p>	<ol style="list-style-type: none"> 1. Object class 2. Object points 3. function points 4. kloc 			
<p>Control unit in serial computer generates a</p>	<ol style="list-style-type: none"> 1. reset signal 2. word-time signal 3. word signal 4. clear signal 			

<p>Which of the following is/are commonly used architectural pattern(s)?</p>	<p>1. Layered Architecture 2. Model-View-Controller 3. Client-server 4. Model-View-Component</p>	
<p>J=K=0 will make flip-flops</p>	<p>1. changed 2. reversed 3. unchanged 4. stopped</p>	
<p>CPU fetches the instruction from memory according to the value of:</p>	<p>1. program counter 2. status register 3. instruction register 4. program status word</p>	

<p>Routine is not loaded until it is called. All routines are kept on disk in a relocatable load format. The main program is loaded into memory & is executed. This type of loading is called... ?</p>	<ol style="list-style-type: none"> 1. Static loading 2. Dynamic loading 3. Dynamic linking 4. Overlays 		
	<ol style="list-style-type: none"> 1. physical address 2. absolute address 3. logical address 4. Main memory address 		
<p>Run time mapping from virtual to physical address is done by:</p>	<ol style="list-style-type: none"> 1. memory management unit 2. PCI 3. CPU 4. semaphore tool 		
<p>A memory buffer used to accommodate a speed differential is called</p>	<ol style="list-style-type: none"> 1. stack pointer 2. cache 3. accumulator 4. disk buffer 		

<p>What is compaction?</p>	<ol style="list-style-type: none"> 1. a technique for overcoming internal fragmentation 2. a paging technique 3. a technique for overcoming external fragmentation 4. a technique for overcoming fatal error 	
<p>The operating system and the other processes are protected from being modified by an already running process because :</p>	<ol style="list-style-type: none"> 1. they are in different memory spaces 2. they are in different logical addresses 3. they have a protection algorithm 4. every address generated by the CPU is being checked against the relocation and limit registers 	
<p>Operating System maintains the page table for:</p>	<ol style="list-style-type: none"> 1. each process 2. each thread 3. each instruction 4. each address 	

	<p>In contiguous memory allocation :</p> <ol style="list-style-type: none"> 1. each process is contained in a single contiguous section of memory 2. all processes are contained in a single contiguous section of memory 3. the memory space is contiguous 4. the memory space is not contiguous 		
The relocation register helps in :	<ol style="list-style-type: none"> 1.providing more address space to processes 2.a different address space to processes 3. to save the process state in PCB 4.to protect the address spaces of processes 		
With relocation and limit registers, each logical address must be _____ the limit register.	<ol style="list-style-type: none"> 1. less than 2. greater than 3. equal to 4. twice of 		

<p>The operating system is :</p>	<ol style="list-style-type: none"> 1. in the low memory 2. in the high memory 3. Secondary memory 4. either a or b (depending on the location of interrupt vector) 		
<p>A solution to the problem of external fragmentation is :</p>	<ol style="list-style-type: none"> 1. compaction 2. smaller memory space 3. larger memory space 4. None of these 		
<p>If relocation is static and is done at assembly or load time, compaction _____.</p>	<ol style="list-style-type: none"> 1. cannot be done 2. must not be done 3. must be done 4. can be done 		

<p>The disadvantage of moving all process to one end of memory and all holes to the other direction, producing one large hole of available memory is :</p>	<ol style="list-style-type: none"> 1. the memory used 2. the cost incurred 3. the CPU used 4. All of these 	
<p>External fragmentation will not occur when :</p>	<ol style="list-style-type: none"> 1. worst fit is used 2. first fit is used 3. no matter which algorithm is used, it will always occur 4. best fit is used 	
<p>Because of virtual memory, the memory can be shared among:</p>	<ol style="list-style-type: none"> 1. threads 2. none of the mentioned 3. instructions 4. processes 	

<p>_____ is the concept in which a process is copied into main memory from the secondary memory according to the requirement.</p>	<ol style="list-style-type: none"> 1. Swapping 2. Segmentation 3. Paging 4. Demand paging 		
<p>The pager concerns with the:</p>	<ol style="list-style-type: none"> 1. first page of a process 2. entire thread 3. individual page of a process 4. entire process 		
<p>Swap space exists in:</p>	<ol style="list-style-type: none"> 1. CPU 2. secondary memory 3. primary memory 4. none of the mentioned 		

<p>When a program tries to access a page that is mapped in address space but not loaded in physical memory, then?</p>	<ol style="list-style-type: none"> 1. segmentation fault occurs 2. no error occurs 3. page fault occurs 4. fatal error occurs 	
<p>Effective access time is directly proportional to:</p>	<ol style="list-style-type: none"> 1. hit ratio 2. memory access time 3. page-fault rate 4. none of the mentioned 	
<p>In FIFO page replacement algorithm, when a page must be replaced:</p>	<ol style="list-style-type: none"> 1. random page is chosen 2. newest page is chosen 3. oldest page is chosen 4. none of the mentioned 	

<p>Which algorithm chooses the page that has not been used for the longest period of time whenever the page required to be replaced?</p>	<ol style="list-style-type: none"> 1. additional reference bit algorithm 2. least recently used algorithm 3. first in first out algorithm 4. counting based page replacement algorithm 	
<p>A process is thrashing if:</p>	<ol style="list-style-type: none"> 1. it is spending less time paging than executing 2. swapping can not take place 3. it is spending more time paging than executing 4. page fault occurs 	
<p>Working set model for page replacement is based on the assumption of:</p>	<ol style="list-style-type: none"> 1. locality 2. random access 3. globalization 4. modularity 	

Predict the output of following C++ program

```
#include
using namespace std;

class Empty {};

int main()
{
    cout << sizeof(Empty);
    return 0;
}
```

1. A
no
n-
zer
o
val
ue
Co
mp
iler
Err
or
Ru
nti
m
e
Er
ror

Operator overloading is

1. making C++ operators work with objects
2. giving new meaning to existing C++ operators
3. making new C++ operators
4. both (a) and (b)

Inheritance is a way to

1. pass arguments and improve data hiding
2. pass arguments and add features to existing classes without rewriting them
3. make general classes into more specific classes and add features to existing classes without rewriting them
4. improve data hiding and encapsulation.

What is the output of the program

```
#include<iostream.h>

void main()
{
    int n=1;
    cout<<endl<<"The numbers are;"<<endl;
    do
    {
        cout <<n<<"\t";
        n++;
    } while (n<=100);
    cout <<endl;
}
```

1.
Print natural numbers 0 to 99

2.
Print natural numbers 1 to 99

3.
Print natural numbers 0 to 100

4.
Print natural numbers 1 to 100

cout stands for

1.
class output

2.
character output

3.
common output

4.
call output

```
#include <iostream>
```

```
using namespace std;
```

```
int main ()
```

```
{
```

```
    cout << (3 > 4 && 3 > 1) << endl;
```

```
    return 0;
```

```
}
```

1.0

2.1

3.error

4.10

	<p>1. 1</p> <p>2. 2</p> <p>3. 3</p> <p>4. 4</p>		
Down counter decrement value by	<p>1. Linear and Hierarchical</p> <p>2. Non-Linear and Hierarchical</p> <p>3. Linear and Non-Hierarchical</p> <p>4. Non-Linear and Non-Hierarchical</p>		
Graphs are examples of which type of data structure	<p>1. binary counter design</p> <p>2. binary counter decimal</p> <p>3. binary coded design</p> <p>4. binary coded decimal</p>		
BCD stands for			

<p>A domain is atomic if elements of the domain are considered to be _____ units.</p>	<ol style="list-style-type: none"> 1. Different 2. Indivisible 3. Constant 4. Divisible 		
<p>The entity relationship set is represented in E-R diagram as</p>	<ol style="list-style-type: none"> 1. Double diamonds 2. Undivided rectangles 3. Dashed lines 4. Diamond 		
<p>Arrays are best data structures</p>	<ol style="list-style-type: none"> 1. For relatively permanent collections of data. 2. For the size of the structure and the data in the structure are constantly changing 3. For both of above situation 4. For none of the above 		

<p>Which of these is a mechanism for naming and visibility control of a class and its content?</p>	<ol style="list-style-type: none"> 1. Object 2. Packages 3. Interfaces 4. None of the Mentioned. 			
<p>Which of the following is correct way of importing an entire package ‘pkg’?</p>	<ol style="list-style-type: none"> 1. import pkg. 2. Import pkg. 3. import pkg.* 4. Import pkg.* 			
<p>Which of these interface declares core method that all collections will have?</p>	<ol style="list-style-type: none"> 1. set 2. EventListner 3. Comparator 4. Collection 			
<p>1. One operation that is not given by magnitude comparator.</p>	<ol style="list-style-type: none"> 1. Equal 2. Less 3. Greater 4. Addition 			

<p>Which of these interface is not a part of Java's collection framework?</p>	<ol style="list-style-type: none"> 1. List 2. Set 3. SortedMap 4. SortedList 			
<p>Which of these methods can randomize all elements in a list?</p>	<ol style="list-style-type: none"> 1. rand() 2. randomize() 3. shuffle() 4. ambiguous() 			
<p>Loss in signal power as light travels down the fiber is called?</p>	<ol style="list-style-type: none"> 1. Attenuation 2. Propagation 3. Scattering 4. Interruption 			

The following program is an example for?

```
class Student{  
int id;  
String name;  
void display(){System.out.println(id+" "+name);}  
public static void main(String args[]){  
Student s1=new Student();  
Student s2=new Student();  
s1.display();  
s2.display();  
}  
}
```

1. Parameterized constructor

2. **Default Constructor**

3. Overloading Constructor

4. None of the above

The topology with highest reliability is ?

1. Bus topology

2. Star topology

3. Ring Topology

4. **Mesh Topology**

Which of the following data structures are indexed structures?

1. **Linear arrays**

2. Linked Lists

3. Graphs

4. Trees

<p>The following two statements illustrate the difference between a</p> <pre>int x = 25; Integer y = new Integer(33);</pre>	<p>1. Primitive data types 2. primitive data type and an object of a wrapper class 3. Wrapper class 4. None of the above</p>	
<p>What will be the output of the this program?</p> <pre>#include <iostream> using namespace std; int main () { int array[] = {0, 2, 4, 6, 7, 5, 3}; int n, result = 0; for (n = 0 ;n < 5 ;n++) { result += billy[n]; } cout << result; return 0; }</pre>	<p>1.25 2.26 3.27 4.none of the above</p>	

What is the output of this program?

```
#include <iostream>
using namespace std;

int main()
{
    int arr[] = {4, 5, 6, 7};
    int *p = (arr + 1);

    cout << *p;

    return 0;
}
```

- 1.
- 4
- 2.
- 5
- 3.
- 6
- 4.
- 7

Which constructor will initialize the base class data member?

1. derived class
2. **base class**
3. class
4. None of the mentioned

When overloading unary operators using Friend function, it requires _____ argument/s.

1. Zero
2. **One**
3. Two
4. None of these.

PLA stands for	1. programmable lead array 2. programmable logic agency 3. predicted logic array 4. programmable logic array		
A BCD counter is a	1. mod-5 counter 2. mod-10 counter 3. mod-15 counter 4. mod-20 counter		
What is difference between protected and private access specifiers in inheritance?	1. private member is not inheritable and not accessible in derived class 2. protected member is inheritable and also accessible in derived class 3. Both are inheritable but private is accessible in the derived class 4. Both are inheritable but protected is not accessible in the derived class		

	<p>1. 4 steps</p> <p>2. 5 steps</p> <p>3. 6 steps</p> <p>4. 8 steps</p>		
1. Design procedure of combinational circuit involves	<p>1. 1011</p> <p>2. 1111</p> <p>3. 0</p> <p>4. 1010</p>		
1. Adding 1001 and 0010 gives output of	<p>1. Addition</p> <p>2. Subtraction</p> <p>3. Division</p> <p>4. Multiplication</p>		

	<p>1. Logical Diagram</p> <p>2. Logical Graph</p> <p>3. Map</p> <p>4. Matrix</p>		
1. A Boolean function may be transformed into	<p>1. No</p> <p>2. Yes</p> <p>3. Maybe</p> <p>4. Never</p>		
1. Is it possible to find two algebraic expressions that specify same function	<p>1. Batch Processing</p> <p>2. Multi-processor</p> <p>3. Distributed</p> <p>4. Time sharing</p>		

	<p>1. circle</p> <p>2. variable</p> <p>3. literal</p> <p>4. minterm</p>		
<p>The time interval between adjacent bits is called the_____.</p>	<p>1.</p> <p>Word-time</p> <p>2. Bit-time</p> <p>3. Turn around time</p> <p>4. Slice time</p>		

PSW is saved in stack when there is a _____.

1. interrupt recognized
2. execution of RST instruction
3. Execution of CALL instruction
4. All of these

Representation of 8620 in binary is

1. 1000_0111_1110_0000
2. 1000_0110_0010_0000
3. 1000_0110_1010_0000
4. 1011_0110_0010_0000

The amount of time required to read a block of data from a disk into memory is composed of seek time, rotational latency, and transfer time.

Rotational latency refers to _____.

1.
the time takes for the platter to make a full rotation

2.
the time it takes for the read-write head to move into position over the appropriate track

3.
the time it takes for the platter to rotate the correct sector under the head

4.
none of the above

1. Using 10's complement $72532 - 3250$ is

1.
69282

2.
69272

3.
69252

4.
69232

	<p>1. 10111</p> <p>2. 101101</p> <p>3. 10011</p> <p>4. 10001</p>		
X=1010100 and Y=1000011 using 1's complement Y-X is	<p>1. -10111</p> <p>2. -10011</p> <p>3. -10001</p> <p>4. -11001</p>		

	<p>1. transition table</p> <p>2. state table</p> <p>3. flow table</p> <p>4. excitation table</p>		
<p>1. Table that is not a part of asynchronous analysis procedure</p> <p>1. Two variables will be represented by</p>	<p>1. eight minterms</p> <p>2. six minterms</p> <p>3. five minterms</p> <p>4. four minterms</p>		

	<p>1. three variables</p> <p>2. four variables</p> <p>3. five variables</p> <p>4. six variables</p>		
<p>1. Eight minterms will be used for</p> <p>1. Minterms are arranged in map in a sequence of</p>	<p>1. binary sequence</p> <p>2. gray code</p> <p>3. binary variables</p> <p>4. BCD code</p>		

	<p>1. encoder</p> <p>2. decoder</p> <p>3. comparator</p> <p>4. carry look ahead</p>		
1. Encoders are made by three	<p>1. AND gate</p> <p>2. OR gate</p> <p>3. NAND gate</p> <p>4. XOR gate</p>		
1. Decoder is a	<p>1. Combinational Circuit</p> <p>2. Sequential Circuit</p> <p>3. Complex Circuit</p> <p>4. Gate</p>		

	1. Encoder 2. Decoder 3. Comparator 4. Carry Look Ahead		
1. BCD to seven segment is a	1. JK 2. T 3. RS 4. ST		
1. One that is not type of flip-flop is	1. NAND gates 2. OR gates 3. AND gates 4. NOT gates		

	<p>1. RS Latch</p> <p>2. SR Latch</p> <p>3. TS Latch</p> <p>4. ST Latch</p>		
1. RS flip-flops are also called	<p>1. 1 input line</p> <p>2. 2 input lines</p> <p>3. 3 input lines</p> <p>4. 4 input lines</p>		
1. Decimal digit in BCD can be represented by	<p>1. meaning</p> <p>2. no meaning</p> <p>3. value</p> <p>4. V_{cc}</p>		

	<p>1. present state</p> <p>2. next state</p> <p>3. input state</p> <p>4. D state</p>		
1. In excitation table of D flipflop next state is equal to	<p>1. AND</p> <p>2. OR</p> <p>3. NOT</p> <p>4. EX-OR</p>		

	<p>1. numeric values</p> <p>2. letter symbols</p> <p>3. 0's</p> <p>4. 1's</p>		
<p>1. In design procedure input output values are assigned with</p> <p>1. Output of AND gates in SOP is connected to</p>	<p>1. NOT gates</p> <p>2. OR gates</p> <p>3. AND gates</p> <p>4. EX-OR gates</p>		

<p>Mod-6 and mod-12 counters are most commonly used in</p>	<ol style="list-style-type: none"> 1. frequency counters 2. multiplexed displays 3. digital clocks 4. power consumption meters 			
<p>7 segment generates output</p>	<ol style="list-style-type: none"> 1. a to b 2. a to f 3. a to g 4. a to z 			
<p>If the disk head is located initially at 32, find the number of disk moves required with FCFS if the disk queue of I/O blocks requests are 98, 37, 14, 124, 65, 67.</p>	<ol style="list-style-type: none"> 1. 331 2. 321 3. 355 4. 361 			

<p>Which of the following memory allocation scheme suffers from external fragmentation ?</p>	<ol style="list-style-type: none"> 1. Segmentation 2. swapping 3. demand Swapping 4. context switch 	
<p>Fragmentation of the file system</p>	<ol style="list-style-type: none"> 1. can always be prevented 2. occurs only if the file system is used improperly 3. is a characteristic of all file systems 4. can be temporarily removed by compaction 	
<p>Consider a system having m resources of the same type. These resources are shared by 3 processes A, B and C which have peak demands of 3, 4 and 6 respectively. For what value of m deadlock will not occur ?</p>	<ol style="list-style-type: none"> 1. 7 2. 9 3. 10 4. 13 	

<p>Pre-emptive scheduling is the strategy of temporarily suspending a running process</p>	<ol style="list-style-type: none"> 1. to allow starving processes to run 2. before the CPU time slice expires 3. when it requests I/O 4. to avoid collision 			
<p>Resources are allocated to the process on non-sharable basis is</p>	<ol style="list-style-type: none"> 1. mutual exclusion 2. circular wait 3. hold and wait 4. no pre-emption 			
<p>In round robin CPU scheduling as time quantum is increased the average turn around time</p>	<ol style="list-style-type: none"> 1. increases 2. decreases 3. remains constant 4. varies irregularly 			

<p>Which of these is not a term describing the collection of Operating Programs</p>	<ol style="list-style-type: none"> 1. Monitor 2. Kernel 3. Supervisor 4. server 	
<p>-----Read the instruction from its memory location into the processor</p>	<ol style="list-style-type: none"> 1. instruction fetch 2. operand address calculation 3. operand fetch 4. operand store 	
<p>A page fault</p>	<ol style="list-style-type: none"> 1. Occurs when there is an error in a specific page. 2. Occurs when a program accesses a page of main memory. 3. Occurs when a program accesses a page not currently in main memory. 4. Occurs when a program accesses a page belonging to another program. 	

	<p>Convert binary 11111110010 to hexadecimal.</p> <ol style="list-style-type: none"> 1. EE2_{16} 2. FF2_{16} 3. 2FE_{16} 4. FD2_{16} 		
Applications like Banking and reservations require which type of OS?	<ol style="list-style-type: none"> 1. Real Time 2. Hard Real Time 3. Soft Real Time 4. None of the above 		
Which of the following sorts does not use an array structure ?	<ol style="list-style-type: none"> 1. Shell sort 2. Bucket Sort 3. Radix Sort 4. Heap Sort 		

<p>How many illegitimate states has synchronous mod-6 counter ?</p>	1. 3 2. 2 3. 1 4. 6	
<p>To build a mod-19 counter the number of flip-flops required is</p>	1. 3 2. 5 3. 7 4. 9	
<p>1. The main difference between JK and RS flip-flop is that</p>	1. JK flip flop needs a clock pulse 2. There is a feedback in JK flip-flop 3. JK flip-flop accepts both inputs as 1 4. JK flip-flop is acronym of Junction cathode multivibrator	

<p>1. Which of the following unit will choose to transform decimal number to binary code ?</p>	<p>1. Encoder 2. Decoder 3. Multiplexer 4. Counter</p>	
<p>State of flipflop can be switched by changing its</p>	<p>1. input signal 2. output signal 3. momentary signals 4. all signals</p>	
<p>An _____ is a set of entities of the same type that share the same properties, or attributes .</p>	<p>1. Entity set 2. Attribute set 3. Relation set 4. Entity model</p>	

<p>The descriptive property possessed by each entity set is _____ .</p>	<ol style="list-style-type: none"> 1. Entity 2. Attribute 3. Relation 4. Model 	
<p>The function that an entity plays in a relationship is called that entity's _____ .</p>	<ol style="list-style-type: none"> 1. Participation 2. Position 3. Role 4. Instance 	

	<p>The attribute <i>name</i> could be structured as a attribute consisting of first name, middle initial, and last name . This type of attribute is called _____</p>	<p>1. Simple attribute</p> <p>2. Composite attribute</p> <p>3. Multivalued attribute</p> <p>4. Derived attribute</p>	
	<p>The attribute AGE is calculated from DATE_OF_BIRTH . The attribute AGE is _____</p>	<p>1. Single valued</p> <p>2. Multi valued</p> <p>3. stored</p> <p>4. Derived</p>	

<p>Not applicable condition can be represented in relation entry as</p>	<ol style="list-style-type: none"> 1. NA 2. 0 3. NULL 4. Blank Space 	
<p>In virtual memory systems, Dynamic address translation</p>	<ol style="list-style-type: none"> 1. is the hardware necessary to implemented paging 2. is useless when swapping is used. 3. stores pages at a specifies location on disk 4. is part of the operating system paging algorithm 	
<p>Page table level that says if page has been modified, is known as</p>	<ol style="list-style-type: none"> 1. A. Presence 2. Dirty 3. Read/Write 4. Page size 	

	<p>In a relation between the entities the type and condition of the relation should be specified . That is called as _____ attribute</p>	<p>1. Descriptive</p> <p>2. Derived</p> <p>3. Recursive</p> <p>4. Relative</p>		
	<p>In 14 pin gate pin no 7 is</p>	<p>1. Vcc</p> <p>2. Vdd</p> <p>3. ground</p> <p>4. AC</p>		

<p>Which of the following is incorrect statement about packages?</p>	<ol style="list-style-type: none"> 1. Interfaces specifies what class must do but not how it does. 2. Interfaces are specified public if they are to be accessed by any code in the program. 3. All variables in interface are implicitly final and static. 4. All variables are static and methods are public if interface is defined public 	
<p>Which two are valid constructors for Thread?</p> <ol style="list-style-type: none"> 1. Thread(Runnable r, String name) 2. Thread() 3. Thread(int priority) 4. Thread(Runnable r, ThreadGroup g) 5. Thread(Runnable r, int priority) 	<ol style="list-style-type: none"> 1. 1 and 3 2. 2 and 4 3. 1 and 2 4. 2 and 5 	
<pre>class X implements Runnable { public static void main(String args[]) { /* Missing code? */ } public void run() {} }</pre> <p>Which of the following line of code is suitable to start a thread ?</p>	<ol style="list-style-type: none"> 1. Thread t = new Thread(X); 2. Thread t = new Thread(X); t.start(); 3. X run = new X(); Thread t = new Thread(run); t.start(); 4. Thread t = new Thread(); x.run(); 	

<p>Assume the following method is properly synchronized and called from a thread A on an object B:</p> <pre><code>wait(2000);</code></pre> <p>After calling this method, when will the thread A become a candidate to get another turn at the CPU?</p>	<ol style="list-style-type: none"> 1. After thread A is notified, or after two seconds. 2. After the lock on B is released, or after two seconds. 3. Two seconds after thread A is notified. 4. Two seconds after lock B is released. 	
<p>Which class or interface defines the <i>wait()</i>, <i>notify()</i> and <i>notifyAll()</i> methods?</p>	<ol style="list-style-type: none"> 1. Object 2. Thread 3. Runnable 4. Class 	
<pre><code>public class MyRunnable implements Runnable { public void run() { // some code here } }</code></pre> <p>which of these will create and start this thread?</p>	<ol style="list-style-type: none"> 1. new Runnable(MyRunnable).start(); 2. new Thread(MyRunnable).run(); 3. new Thread(new MyRunnable()).start(); 4. new MyRunnable().start(); 	

What will be the output of the sample code?

```
public class Foo
{
    public static void
main(String[] args)
    {
        try
        {
            return;
        }
        finally
        {

System.out.println( "Finally" );
        }
    }
}
```

- 1.Finally
- 2.Compilation fails.
- 3.The code runs with no output.
- 4.An exception is thrown at runtime.

What will be the output of the sample program?

```
try
{
    int x = 0;
    int y = 5 / x;
}
catch (Exception e)
{
    System.out.println("Exception");
}
catch (ArithmetricException ae)
{
    System.out.println(" Arithmetric
Exception");
}
System.out.println("finished");
```

1. finished
- 2.Exception
- 3.Compilation fails.
- 4.Arithmetric Exception

What will be the output of the sample program?

```
public class X
{
    public static void main(String []
    [ ] args)
    {
        try
        {
            badMethod();
            System.out.print("A");
        }
        catch (Exception ex)
        {
            System.out.print("B");
        }
        finally
        {
            System.out.print("C");
        }
        System.out.print("D");
    }
    public static void badMethod()
    {
        throw new Error();
    }
}
```

1. ABCD
2. Compilation fails.
3. C is printed before exiting with an error message.
4. BC is printed before exiting with an error message.

BCD to 7 segment is

1. decoder
2. encoder
3. mux
4. demux

What is the result of compiling and running this program?

```
class Mammal{
    void eat(Mammal m){

System.out.println("Mammal eats
food");
    }
}

class Cattle extends Mammal{
    void eat(Cattle c){

System.out.println("Cattle eats
hay");
    }
}

class Horse extends Cattle{
    void eat(Horse h){

System.out.println("Horse eats
hay");
    }
}

public class Test{
    public static void
main(String[] args){
        Mammal h = new Horse();
        Cattle c = new Horse();
        c.eat(h);
    }
}
```

1. prints "Mammal eats food"
2. prints "Cattle eats hay"
3. Class cast Exception at runtime
4. None of these

	<p>1. Multiple</p> <p>2. Multilevel</p> <p>3. Hierarchical</p> <p>4. Single</p>		
<p>class X, class Y and class Z are derived from class BASE. This is _____ inheritance</p>	<p>1. ::</p> <p>2. :</p> <p>3. ;</p> <p>4. </p>		
<p>The derivation of Child class from Base class is indicated by ____ symbol.</p>	<p>1. public</p> <p>2. protected</p> <p>3. private</p> <p>4. friend</p>		
<p>During a class inheritance in CPP, if the visibility mode or mode of derivation is not provided, then by default visibility mode is_____.</p>	<p>1. public</p> <p>2. protected</p> <p>3. private</p> <p>4. struct can't inherit class</p>		
<p>If the derived class is struct, then default visibility mode is_____</p>			

<p>What is the difference between protected and private access specifiers in inheritance?</p>	<p>1.private member is not inheritable and not accessible in derived class</p> <p>2.protected member is inheritable and also accessible in derived class</p> <p>3.Both are inheritable but private is accessible in the derived class</p> <p>4.Both are inheritable but protected is not accessible in the derived class</p>		
<p>In Multipath inheritance, in order to remove duplicate set of records in child class then</p>	<p>1. Write Virtual function in parent classes</p> <p>2. Write virtual functions in base class</p> <p>3. Make base class as virtual base class</p> <p>4. All of these</p>		
<p>Latches are</p>	<p>1. level triggered</p> <p>2. edge triggered</p> <p>3. clock triggered</p> <p>4. pulse triggered</p>		

	<p>3x8 decoder will have</p> <ol style="list-style-type: none"> 1. 3 inputs 2. 4 inputs 3. 5 inputs 4. 6 inputs 		
Database _____ , which is the logical design of the database	<ol style="list-style-type: none"> 1. Instance 2. Schema 3. Relation 4. Domain 		
Momentary change in state of flipflop is called	<ol style="list-style-type: none"> 1. feedback path 2. tri state 3. signals 4. trigger 		

<p>Control of shift register labeled as SH/LD =0 will</p>	<ol style="list-style-type: none"> 1. shift 2. store 3. load 4. add 		
<p>In signed-magnitude binary division, if the dividend is $(11100)_2$ and divisor is $(10011)_2$ then the result is</p>	<ol style="list-style-type: none"> 1. $(00100)_2$ 2. $(10100)_2$ 3. $(11001)_2$ 4. $(01100)_2$ 		
<p>One hex digit is sometimes referred to as a(n):</p>	<ol style="list-style-type: none"> 1. byte 2. nibble 3. grouping 4. instruction 		

<p>If the main memory is of 8K bytes and the cache memory is of 2K words. It uses associative mapping. Then each word of cache memory shall be</p>	<p>1. 11 bits 2. 21 bits 3. 16 bits 4. 20 bits</p>	
<p>In most of logic gates 1 means</p>	<p>1. 0 V 2. 1 V 3. 5 V 4. 10 V</p>	
<p>Consider the following code fragment: if (fork() == 0)</p> <pre data-bbox="158 1370 841 1549">{ a = a + 5; printf("%d,%d\n", a, &a); } else { a = a - 5; printf("%d, %d\n", a, &a); }</pre>	<p>1. $u = x + 10$ and $v = y$ 2. $u = x + 10$ and $v \neq y$ 3. $u + 10 = x$ and $v = y$ 4. $u + 10 = x$ and $v \neq y$</p>	

	<p>In 14 pin gate pin no 14 is</p> <ol style="list-style-type: none"> 1. Vcc 2. Vdd 3. ground 4. AC 		
What is the swap space in the disk used for?	<ol style="list-style-type: none"> 1. Saving temporary html pages 2. Saving process data 3. Storing the super-block 4. Storing device drivers 		
When CPU is executing a Program that is part of the Operating System, it is said to	<ol style="list-style-type: none"> 1. Interrupt mode 2. System mode 3. Half mode 4. Simplex mode 		

$$1. \sum_{i=1}^n S_i < m+n$$

$$2. \sum_{i=1}^n S_i > n$$

Suppose n processes, P_1, \dots, P_n share m identical resource units, which can be reserved and released one at a time. The maximum resource requirement of process P_i is S_i , where $S_i > 0$. Which one of the following is a sufficient condition for ensuring that deadlock does not occur?

$$3. \sum_{i=1}^n S_i < m*n$$

$$4. \sum_{i=1}^n S_i < m$$

<p>Consider three processes, all arriving at time zero, with total execution time of 10, 20 and 30 units, respectively. Each process spends the first 20% of execution time doing I/O, the next 70% of time doing computation, and the last 10% of time doing I/O again. The operating system uses a shortest remaining compute time first scheduling algorithm and schedules a new process either when the running process gets blocked on I/O or when the running process finishes its compute burst. Assume that all I/O operations can be overlapped as much as possible. For what percentage of time does the CPU remain idle?</p>	<p>1. 0%</p> <p>2. 89.4%</p> <p>3. 10.6%</p> <p>4. 30.0%</p>	
<p>Which of the following is major part of time taken when accessing data on the disk?</p>	<p>1. Settle time</p> <p>2. Rotational latency</p> <p>3. Seek time</p> <p>4. Waiting time</p>	
<p>_____ is an engineering discipline which is concerned with all aspects of software production.</p>	<p>1. Systems Engineering</p> <p>2. Computer engineering</p> <p>3. Software engineering</p> <p>4. Production Engineering</p>	

<p>From among the following given scenarios determine the right one to justify interrupt mode of data-transfer</p>	<ol style="list-style-type: none"> 1. Bulk transfer of several kilobyte 2. Moderately large data transfer but more than 1 KB 3. keyboard inputs 4. Short events like mouse action 	
<p>Assign the proper odd parity bit to the code 111001.</p>	<ol style="list-style-type: none"> 1. 1111011 2. 1111001 3. 0111111 4. 0011111 	

<p>A table on the many side of a one to many or many to many relationship must:</p>	<ol style="list-style-type: none"> 1. Be in Second Normal Form (2NF) 2. Be in Third Normal Form (3NF) 3. Have a single attribute key 4. Have a composite key 	
<p>Increasing the RAM of a computer typically improves performance because:</p>	<ol style="list-style-type: none"> 1. Larger RAMs are faster 2. Virtual memory increases 3. Fewer page faults occur 4. Fewer segmentation faults occur 	

<p>Three concurrent processes X, Y, and Z execute three different code segments that access and update certain shared variables. Process X executes the P operation (i.e., wait) on semaphores a, b and c; process Y executes the P operation on semaphores b, c and d; process Z executes the P operation on semaphores c, d, and a before entering the respective code segments. After completing the execution of its code segment, each process invokes the V operation (i.e., signal) on its three semaphores. All semaphores are binary semaphores initialized to one. Which one of the following represents a deadlockfree order of invoking the P operations by the processes?</p>	<p>1. X: P(a)P(b)P(c) Y:P(b)P(c)P(d) Z:P(c)P(d)P(a)</p> <p>2. X: P(b)P(a)P(c) Y:P(b)P(c)P(d) Z:P(a)P(c)P(d)</p> <p>3. X: P(b)P(a)P(c) Y:P(c)P(b)P(d) Z:P(a)P(c)P(d)</p> <p>4. X: P(a)P(b)P(c) Y:P(c)P(b)P(d) Z:P(c)P(d)P(a)</p>	
<p>Protocols are?</p>	<p>1. Agreements on how communication components and DTE's are to communicate</p> <p>2. Logical communication channels for transferring data</p> <p>3. Physical communication channels sued for transferring data</p> <p>4. Logical communication channels sued for transferring data</p>	

<p>Which data communication method is used to transmit the data over a serial communication link?</p>	<ol style="list-style-type: none"> 1. Simplex 2. Half-duplex 3. Full-duplex 4. Half and Full Duplex 	
<p>In communication satellite, multiple repeaters are known as?</p>	<ol style="list-style-type: none"> 1. Detectors 2. Modulators 3. Stations 4. Transponders 	
<p>Error detection at the data link layer is achieved by?</p>	<ol style="list-style-type: none"> 1. Bit stuffing 2. Cyclic redundancy codes 3. Hamming codes 4. Equalization 	

<p>Which is a bottom-up approach to database design that design by examining the relationship between attributes:</p>	<ol style="list-style-type: none"> 1. Functional dependency 2. Database modeling 3. Normalization 4. Decomposition 	
<p>Empdt1(empcode, name, street, city, state, pincode). For any pincode, there is only one city and state. Also, for given street, city and state, there is just one pincode. In normalization terms, empdt1 is a relation in</p>	<ol style="list-style-type: none"> 1. 1 NF only 2. 2 NF and hence also in 1 NF 3. 3NF and hence also in 2NF and 1NF 4. BCNF and hence also in 3NF, 2NF and 1NF 	

<p>A CPU generates 32-bit virtual addresses. The page size is 4 KB. The processor has a translation look-aside buffer (TLB) which can hold a total of 128 page table entries and is 4-way set associative. The minimum size of the TLB tag is:</p>	<ol style="list-style-type: none"> 1. 11 bits 2. 13 bits 3. 15 bits 4. 18 bits 	
<p>Virtual memory is</p>	<ol style="list-style-type: none"> 1. Large secondary memory 2. Large main memory 3. Illusion of large main memory 4. None of the above 	
<p>Page fault occurs when</p>	<ol style="list-style-type: none"> 1. When a requested page is in memory 2. When a requested page is not in memory 3. When a page is corrupted 4. When an exception is thrown 	

Thrashing occurs when	1. When a page fault occurs 2. Processes on system frequently access pages not in memory 3. Processes on system are in running state 4. Processes on system are in waiting state			
Let the page fault service time be 10ms in a computer with average memory access time being 20ns. If one page fault is generated for every 10^6 memory accesses, what is the effective access time for the memory?	1. 1.21ns 2. 2.30ns 3. 3.23ns 4. 4.35ns			
Assume that there are 3 page frames which are initially empty. If the page reference string is 1, 2, 3, 4, 2, 1, 5, 3, 2, 4, 6, the number of page faults using the optimal replacement policy is_____.	1. 5 2. 6 3. 8 4. 7			

<p>Which of the following is NOT an advantage of using shared, dynamically linked libraries as opposed to using statically linked libraries ?</p>	<ol style="list-style-type: none"> 1. Smaller sizes of executable files 2. Lesser overall page fault rate in the system 3. Faster program startup 4. Existing programs need not be re-linked to take advantage of newer versions of libraries 	
<p>A relational database consists of a collection of</p>	<ol style="list-style-type: none"> 1. Tables 2. Fields 3. Records 4. Keys 	

	<p>The term attribute refers to a _____ of a table.</p>	<p>1. Record</p> <p>2. Column</p> <p>3. Tuple</p> <p>4. Key</p>		
	<p>For each attribute of a relation, there is a set of permitted values, called the _____ of that attribute.</p>	<p>1. Domain</p> <p>2. Relation</p> <p>3. Set</p> <p>4. Schema</p>		

<p>Database _____, which is a snapshot of the data in the database at a given instant in time</p>	<ol style="list-style-type: none"> 1. Schema 2. Domain 3. Instance 4. Relation 	
<p>Which one of the following is a set of one or more attributes taken collectively to uniquely identify a record?</p>	<ol style="list-style-type: none"> 1. Candidate key 2. Sub key 3. Super key 4. Foreign key 	

<p>Consider attributes ID , CITY and NAME . Which one of this can be considered as a super key ?</p>	<ol style="list-style-type: none"> 1. NAME 2. ID 3. CITY 4. none of the above 	
<p>The subset of super key is a candidate key under what condition ?</p>	<ol style="list-style-type: none"> 1. No proper subset is a super key 2. All subsets are super keys 3. Subset is a super key 4. Each subset is a super key 	

<p>A _____ is a property of the entire relation, rather than of the individual tuples in which each tuple is unique.</p>	<ol style="list-style-type: none"> 1. Rows 2. Key 3. Attribute 4. Fields 	
<p>The relation with the attribute which is the primary key is referenced in another relation. The relation which has the attribute as primary key is called</p>	<ol style="list-style-type: none"> 1. Referential relation 2. Referencing relation 3. Referenced relation 4. Referred relation 	

<p>The _____ is the one in which the primary key of one relation is used as a normal attribute in another relation .</p>	<ol style="list-style-type: none"> 1. Referential relation 2. Referencing relation 3. Referenced relation 4. Referred relation 	
<p>A _____ integrity constraint requires that the values appearing in specified attributes of any tuple in the referencing relation also appear in specified attributes of at least one tuple in the referenced relation.</p>	<ol style="list-style-type: none"> 1. Referential 2. Referencing 3. Specific 4. Primary 	

Linear arrays are also called	1. Straight line array 2. One-dimensional array 3. Vertical array 4. Horizontal array			
Consider three CPU-intensive processes, which require 10, 20 and 30 time units and arrive at times 0, 2 and 6, respectively. How many context switches are needed if the operating system implements a shortest remaining time first scheduling algorithm? Do not count the context switches at time zero and at the end.	1. 1 2. 2 3. 3 4. 4			
Which of the following process scheduling algorithm may lead to starvation	1. FIFO 2. Round Robin 3. Shortest Job Next 4. none			

	<p>If the quantum time of round robin algorithm is very large, then it is equivalent to:</p> <ol style="list-style-type: none"> 1. First in first out 2. Lottery scheduling 3. Shortest Job Next 4. None of the above 		
	<p>A scheduling algorithm assigns priority proportional to the waiting time of a process. Every process starts with priority zero (the lowest priority). The scheduler re-evaluates the process priorities every T time units and decides the next process to schedule.</p> <p>Which one of the following is TRUE if the processes have no I/O operations and all arrive at time zero?</p>	<ol style="list-style-type: none"> 1. This algorithm is equivalent to the first-come-first-serve algorithm 2. This algorithm is equivalent to the round-robin algorithm. 3. This algorithm is equivalent to the shortest-job-first algorithm.. 4. This algorithm is equivalent to the shortest-remaining-time-first algorithm 	

Consider the following table of arrival time and burst time for three processes P0, P1 and P2.

Process	Arrival time	Burst Time
P0	0 ms	9 ms
P1	1 ms	4 ms
P2	2 ms	9 ms

The pre-emptive shortest job first scheduling algorithm is used. Scheduling is carried out only at arrival or completion of processes. What is the average waiting time for the three processes?

1.50 ms

2.4.33 ms

3.6.33

4. 7.33

Trees are examples of which type of data structure

1. Linear and Hierarchical

2. Linear and Non-Hierarchical

3. Non-Linear and Hierarchical

4. Non-Linear and Non-Hierarchical

Which of the following statements are true?

I. Shortest remaining time first scheduling may cause starvation

II. Preemptive scheduling may cause starvation

III. Round robin is better than FCFS in terms of response time

1. I only

2. I and III only

3. II and III only

4. I, II and III

<p>Group 1 contains some CPU scheduling algorithms and Group 2 contains some applications. Match entries in Group 1 to entries in Group 2.</p> <table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: center; width: 50%;">Group I</th><th style="text-align: center; width: 50%;">Group II</th></tr> </thead> <tbody> <tr> <td style="vertical-align: top;">(P) Gang Scheduling</td><td style="vertical-align: top;">(1) Guaranteed Scheduling</td></tr> <tr> <td style="vertical-align: top;">(Q) Rate Monotonic Scheduling</td><td style="vertical-align: top;">(2) Real-time Scheduling</td></tr> <tr> <td style="vertical-align: top;">(R) Fair Share Scheduling</td><td style="vertical-align: top;">(3) Thread Scheduling</td></tr> </tbody> </table>	Group I	Group II	(P) Gang Scheduling	(1) Guaranteed Scheduling	(Q) Rate Monotonic Scheduling	(2) Real-time Scheduling	(R) Fair Share Scheduling	(3) Thread Scheduling	<p>1. $P - 3 Q - 2 R - 1$</p> <p>2. $P - 1 Q - 2 R - 3$</p> <p>3. $P - 2 Q - 3 R - 1$</p> <p>4. $P - 1 Q - 3 R - 2$</p>	
Group I	Group II									
(P) Gang Scheduling	(1) Guaranteed Scheduling									
(Q) Rate Monotonic Scheduling	(2) Real-time Scheduling									
(R) Fair Share Scheduling	(3) Thread Scheduling									
<p>Consider three processes (process id 0, 1, 2 respectively) with compute time bursts 2, 4 and 8 time units. All processes arrive at time zero. Consider the longest remaining time first (LRTF) scheduling algorithm. In LRTF ties are broken by giving priority to the process with the lowest process id. The average turn around time is:</p>	<p>1. 13 units</p> <p>2. 14 units</p> <p>3. 15 units</p> <p>4. 16 units</p>									
<p>PSW is saved in stack when there is a</p>	<p>1. interrupt recognised</p> <p>2. execution of RST instruction</p> <p>3. Execution of CALL instruction</p> <p>4. Execution of RET instruction</p>									

<p>The maximum number of processes that can be in Ready state for a computer system with n CPUs is</p>	<ol style="list-style-type: none"> 1. n 2. n^2 3. $2n$ 4. Independent of n 																
<p>For the processes listed in the following table, which of the following scheduling schemes will give the lowest average turnaround time?</p> <table border="1" data-bbox="146 853 698 1212"> <thead> <tr> <th>Process</th> <th>Arrival Time</th> <th>Processing Time</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>0</td> <td>3</td> </tr> <tr> <td>B</td> <td>1</td> <td>6</td> </tr> <tr> <td>C</td> <td>4</td> <td>4</td> </tr> <tr> <td>D</td> <td>6</td> <td>2</td> </tr> </tbody> </table>	Process	Arrival Time	Processing Time	A	0	3	B	1	6	C	4	4	D	6	2	<ol style="list-style-type: none"> 1. First Come First Serve 2. Non-preemptive Shortest Job First 3. Shortest Remaining Time 4. Round Robin with Quantum value two 	
Process	Arrival Time	Processing Time															
A	0	3															
B	1	6															
C	4	4															
D	6	2															
<p>Which of the following is the block that is not permitted to be written back to the disk?</p>	<ol style="list-style-type: none"> 1. Dead code 2. Read only 3. Pinned 4. Zapped 																

In a MIN-Heap	1. parent nodes have values greater than or equal to their childs 2. parent nodes have values less than or equal to their childs 3. both statements are true 4. both statements are wrong	
Which one of the below mentioned is not a linear data structure	1. Queues 2. Stacks 3. Arrays 4. Trees	
Binary search tree has best case run-time complexity of $O(\log n)$. What could the worst case?	1. $O(n)$ 2. $O(n^2)$ 3. $O(n^3)$ 4. $O(n \log n)$	

<p>Feedback among logic gates make asynchronous system</p>	<ol style="list-style-type: none"> 1. stable 2. unstable 3. complex 4. combinational 	
<p>Quick sort algorithm is an example of</p>	<ol style="list-style-type: none"> 1. Greedy approach 2. Improved binary search 3. Dynamic Programming 4. Divide and conquer 	
<p>The logical or mathematical model of a particular organization of data is called a</p>	<ol style="list-style-type: none"> 1. Data Structure 2. Data Configuration 3. Data arrangement 4. Data formation 	

<p>Which of the following is the least simple data structure?</p>	<ol style="list-style-type: none"> 1. Linear array 2. Two dimensional array 3. Three dimensional array 4. Multi-dimensional array 	
<p>Build & Fix Model is suitable for programming exercises of _____ LOC (Line of Code)</p>	<ol style="list-style-type: none"> 1. 100-200 2. 200-400 3. 400-1000 4. above 1000 	
<p>When does top value of the stack changes?</p>	<ol style="list-style-type: none"> 1. Before deletion 2. After Deletion 3. While checking for underflow 4. At the time of deletion 	

<p>..... level is where the model becomes compatible executable code</p>	<ol style="list-style-type: none"> 1. Abstract level 2. Application Level 3. Implementation Level 4. Interprating Level 	
<p>STACK IS ALSO CALLED</p>	<ol style="list-style-type: none"> 1. Last in First out 2. First In last Out 3. First In First Out 4. Last In Last Out 	
<p>Which of the following is true about the characteristics of abstract data types?</p> <p>A. It exports a set of operations B. It exports a type.</p>	<ol style="list-style-type: none"> 1. A is true, B is true 2. A is true and B is false 3. A is false and B is true 4. A is false and B is false 	

	<p>..... is not the component of data structure.</p> <ol style="list-style-type: none"> 1. Operations 2. Storage Structures 3. Algorithms 4. None of the above 		
<p>Inserting an item into the stack when stack is not full is called Operation and deletion of item from the stack, when stack is not empty is called operation.</p>	<ol style="list-style-type: none"> 1. Push and Pop 2. Pop and Push 3. Insert and Delete 4. Delete and Insert 		
<p>..... Is a pile in which items are added at one end and removed from the other.</p>	<ol style="list-style-type: none"> 1. Stack 2. Queue 3. Single Linked List 4. Double Linked List 		

	<p>..... is very useful in situation when data have to stored and then retrieved in reverse order.</p>	<ol style="list-style-type: none"> 1. Stack 2. Queue 3. Single Linked List 4. Doubly Linked List 		
Virtual memory is		<ol style="list-style-type: none"> 1. an extremely large main memory 2. an extremely large secondary memory 3. an illusion of an extremely large memory 4. a type of memory used in super computers 		
Definite time in a flipflop is called		<ol style="list-style-type: none"> 1. clear time 2. pulse time 3. hold time 4. reset time 		

<p>A binary number's value changes most drastically when the _____ is changed.</p>	<ol style="list-style-type: none"> 1. MSB 2. Frequency 3. LSB 4. Duty Cycle 	
<p>In dial up remote access a client uses the ---- to create a physical connection to a part on a remote access server of the private network.</p>	<ol style="list-style-type: none"> 1. Public telephone network 2. Banks branch network 3. Private network 4. Public local network 	

Baud means?	1. The number of bits transmitted per unit time 2. The number of bytes transmitted per unit time 3. The rate at which the signal changes 4. None of above	
In OSI model dialogue control and token management are responsibilities of ?	1. Session Layer 2. Network layer 3. Transport layer 4. Data link layer	

	<p>Under mark parity, each parity bit is?</p> <ol style="list-style-type: none"> 1. Alternated between 0 and 1 2. Always set to 0 3. Always set to 1 4. Not used 		
	<p>How long is an IPv6 address?</p> <ol style="list-style-type: none"> 1. 32 bits 2. 128 bits 3. 128 bytes 4. 64 bits 		
	<p>You have 10 users plugged into a hub running 10Mbps half-duplex. There is a server connected to the switch running 10Mbps half-duplex as well. How much bandwidth does each host have to the server?</p>	<ol style="list-style-type: none"> 1. 100 kbps 2. 10 Mbps 3. 1 Mbps 4. 2 Mbps 	

<p>How often are BPDUs sent from a layer 2 device?</p>	<ol style="list-style-type: none"> 1. Every 2 seconds 2. Never 3. Every 10 minutes 4. Every 30 seconds 	
<p>An encoder converts _____.</p>	<ol style="list-style-type: none"> 1. noncoded information into coded form 2. coded information into noncoded form 3. HIGHs to LOWs 4. LOWs to HIGHs 	
<p>Which router command allows you to view the entire contents of all access lists?</p>	<ol style="list-style-type: none"> 1. show all access-lists 2. show access-lists 3. show ip interface 4. show interface 	

<p>What protocols are used to configure trunking on a switch?</p>	<ol style="list-style-type: none"> 1. VLAN Trunking Protocol 2. VLAN 3. 802.1Q 4. ISL 	
<p>How many collision domains are created when you segment a network with a 12-port switch?</p>	<ol style="list-style-type: none"> 1. 2. 12 3. 5 4. 2 	
<p>Which protocol does Ping use?</p>	<ol style="list-style-type: none"> 1. TCP 2. ARP 3. ICMP 4. BootP 	

<p>What PPP protocol provides dynamic addressing, authentication, and multilink?</p>	<ol style="list-style-type: none"> 1. NCP 2. HDLC 3. X.25 4. LCP 	
<p>What is a stub network?</p>	<ol style="list-style-type: none"> 1. A network that has only one entry and exit point. 2. A network with only one entry and no exit point. 3. A network with more than one exit point. 4. A network with more than one exit and entry point. 	

<p>M flip-flops produces</p>	<ol style="list-style-type: none"> 1. 2^{m-1} states 2. $2-1$ states 3. 2^{m+1} states 4. 2^m states 		
<p>Which of the following services use TCP?</p>	<ol style="list-style-type: none"> 1. DHCP 2. SMTP 3. FTP 4. TFTP 		
<p>Which of the following is private IP address?</p>	<ol style="list-style-type: none"> 1. 192.168.24.43 2. 168.172.19.39 3. 172.15.14.36 4. 12.0.0.1 		

<p>Which class of IP address provides a maximum of only 254 host addresses per network ID?</p>	<ol style="list-style-type: none"> 1. Class A 2. Class B 3. Class C 4. Class D 	
<p>When J and complement of K are 1, flipflop QA after shift</p>	<ol style="list-style-type: none"> 1. 1 2. 0 3. reset 4. defined 	
<p>Which of the following devices modulates digital signals into analog signals that can be sent over traditional telephone lines?</p>	<ol style="list-style-type: none"> 1. Router 2. Gateway 3. Switch 4. Modem 	

<p>Which of the following devices is a PC component that connects the computer to the network?</p>	<ol style="list-style-type: none"> 1. Bridge 2. NIC 3. DNS Server 4. Gateway 	
<p>Which of the following devices direct network traffic based not by MAC addresses but by software-configured network addresses?</p>	<ol style="list-style-type: none"> 1. Router 2. Hub 3. Bridge 4. NIC 	
<p>To clear flip-flops we use</p>	<ol style="list-style-type: none"> 1. toggle switch 2. push button 3. mux 4. demux 	

<p>Which of the following terms is used to describe a hardware- or software-based device that protects networks from outside threats?</p>	<ol style="list-style-type: none"> 1. NIC 2. Gateway 3. Firewall 4. Hub 	
<p>Which of the following devices takes data sent from one network device and forwards it to all devices on the network regardless of the intended recipient?</p>	<ol style="list-style-type: none"> 1. DNS Server 2. Switch 3. Hub 4. Gateway 	
<p>Which of the following devices takes data sent from one network device and forwards it to the destination node based on MAC address?</p>	<ol style="list-style-type: none"> 1. Hub 2. Switch 3. Gateway 4. Modem 	

<p>Which of the following devices assigns IP address to devices connected to a network that uses TCP/IP?</p>	<ol style="list-style-type: none"> 1. DHCP Server 2. NIC 3. Gateway 4. Hub 	
<p>Although they've fallen out of favor, which of the following devices is used to connect different network segments and manage the traffic between them?</p>	<ol style="list-style-type: none"> 1. Bridge 2. Hub 3. Gateway 4. Repeater 	
<p>Which of the following network devices/systems translates data from one format to another?</p>	<ol style="list-style-type: none"> 1. Hub 2. DHCP Server 3. Gateway 4. NIC 	

<p>Which of the following devices translates hostnames into IP addresses?</p>	<ol style="list-style-type: none"> 1. DNS Server 2. Hub 3. DHCP Server 4. Firewall 	
<p>Switch is a Device of _____ Layer of OSI Model.</p>	<ol style="list-style-type: none"> 1. Network Layer 2. Data Link Layer 3. Application Layer 4. Session Layer 	
<p>HUB is a _____ Device and Switch is a _____ Device.</p>	<ol style="list-style-type: none"> 1. Unicast, Multicast 2. Multicast, Unicast 3. Broadcast, Unicast 4. None of Above 	

<p>The data on a DVD is held in the form of on the disc.</p>	<ol style="list-style-type: none"> 1. small pits and bumps 2. small bits 3. small bytes 4. None of These 	
<p>How many digits of the DNIC (Data Network Identification Code) identify the country?</p>	<ol style="list-style-type: none"> 1. first three 2. first four 3. first five 4. first six 	
<p>A station in a network forwards incoming packets by placing them on its shortest output queue. What routing algorithm is being used?</p>	<ol style="list-style-type: none"> 1. hot potato routing 2. Flooding 3. static routing 4. delta routing 	

<p>The probability that a single bit will be in error on a typical public telephone line using 4800 bps modem is 10^{-3}. If no error detection mechanism is used, the residual error rate for a communication line using 9-bit frames is approximately equal to</p>	<ol style="list-style-type: none"> 1. 0.003 2. 0.009 3. 0.991 4. 0.999 	
<p>Frames from one LAN can be transmitted to another LAN via the device</p>	<ol style="list-style-type: none"> 1. Router 2. Bridge 3. Repeater 4. Modem 	
<p>Relational Algebra is a _____ query language that takes two relation as input and produces another relation as output of the query.</p>	<ol style="list-style-type: none"> 1. Relational 2. Structural 3. Procedural 4. Fundamental 	

<p>Which of the following condition is used to transmit two packets over a medium at the same time?</p>	<ol style="list-style-type: none"> 1. Contention 2. Collision 3. Synchronous 4. Asynchronous 	
<p>You have a class A network address 10.0.0.0 with 40 subnets, but are required to add 60 new subnets very soon. You would like to still allow for the largest possible number of host IDs per subnet. Which subnet mask should you assign?</p>	<ol style="list-style-type: none"> 1. 255.240.0.0 2. 255.248.0.0 3. 255.255.255.255 4. 255.254.0.0 	

<p>Contention is</p>	<p>1. One or more conductors that serve as a common connection for a related group of devices</p> <p>2. a continuous frequency capable of being modulated or impressed with a second signal</p> <p>3. the condition when two or more stations attempt to use the same channel at the same time</p> <p>4. a collection of interconnected functional units that provides a data communications service among stations attached to the network</p>	
<p>What are the most commonly used transmission speeds in BPS used in data communication?</p>	<p>1. 300</p> <p>2. 1200</p> <p>3. 2400</p> <p>4. 9600</p>	

<p>Which of the following is used to denote the selection operation in relational algebra ?</p>	<ol style="list-style-type: none"> 1. Pi (Greek) 2. Sigma (Greek) 3. Lambda (Greek) 4. Omega (Greek) 	
<p>What is the default subnet mask for a class C network?</p>	<ol style="list-style-type: none"> 1. 127.0.0.1 2. 255.0.0.0 3. 255.255.0.0 4. 255.255.255.0 	
<p>Which of the following is used for modulation and demodulation?</p>	<ol style="list-style-type: none"> 1. Modem 2. Protocols 3. Gateway 4. Multiplexer 	

<p>For select operation the _____ appear in the subscript and the _____ argument appears in the parenthesis after the sigma.</p>	<ol style="list-style-type: none"> 1. Predicates, relation 2. Relation, Predicates 3. Operation, Predicates 4. Relation, Operation 	
<p>The term 'duplex' refers to the ability of the data receiving stations to echo back a confirming message to the sender. In full duplex data transmission, both the sender and the receiver</p>	<ol style="list-style-type: none"> 1. cannot talk at once 2. can receive and send data simultaneously 3. can send or receive data one at a time 4. can do one way data transmission only 	

Which of the following is not a disadvantage of wireless LAN?

1. Slower data transmission
2. higher error rate
3. interference of transmissions from different computers
4. All of the above

	<p>The Internet Control Message Protocol (ICMP)</p>	<ol style="list-style-type: none">1. allows gateways to send error control messages to other gateways or hosts2. provides communication between the Internet Protocol Software on one machine and the Internet Protocol Software on another3. reports error conditions to the original source, the source must relate errors to individual application programs and take action to correct the problem4. All of the above		
--	---	--	--	--

<p>The _____ operation, denoted by $-$, allows us to find tuples that are in one relation but are not in another.</p>	<ol style="list-style-type: none"> 1. Union 2. Set-difference 3. Difference 4. Intersection 	
<p>Your company has a LAN in its downtown office and has now set up a LAN in the manufacturing plant in the suburbs. To enable everyone to share data and resources between the two LANs, what type of device(s) are needed to connect them? Choose the most correct answer.</p>	<ol style="list-style-type: none"> 1. Modem 2. Cable 3. Hub 4. Router 	

<p>Which is a unary operation:</p>	<ol style="list-style-type: none"> 1. a) Selection operation 2. b) Primitive operation 3. c) Projection operation 4. d) Generalized selection 		
<p>Which is a join condition contains an equality operator:</p>	<ol style="list-style-type: none"> 1. Equijoins 2. Cartesian 3. Natural 4. Left 		
<p>How many hosts are attached to each of the local area networks at your site?</p>	<ol style="list-style-type: none"> 1. 128 2. 254 3. 256 4. 64 		

<p>When you ping the loopback address, a packet is sent where?</p>	<ol style="list-style-type: none"> 1. On the network 2. Down through the layers of the IP architecture and then up the layers again 3. Across the wire 4. through the loopback dongle 	
<p>Which of the following TCP/IP protocol is used for transferring electronic mail messages from one machine to another?</p>	<ol style="list-style-type: none"> 1. FTP 2. SNMP 3. SMTP 4. RPC 	

<p>Which of the following is not outer join ?</p>	<ol style="list-style-type: none"> 1. Left outer join 2. 3. Right outer join 4. Full outer join 	
<p>Avalanche photodiode receivers can detect hits of transmitted data by receiving</p>	<ol style="list-style-type: none"> 1. 100 photons 2. 200 photons 3. 300 photons 4. 400 photons 	

<p>Satellite-Switched Time-Division Multiple Access (SS/TDMA) is</p>	<ol style="list-style-type: none"> 1. the method of determining which device has access to the transmission medium at any time. 2. a medium access control technique for multiple access transmission media 3. a form of TDMA in which circuit switching is used to dynamically change the channel assignments 4. All of the above 		
<p>Which is not a word size?</p>	<ol style="list-style-type: none"> 1. 64 2. 28 3. 16 4. 8 		

<p>Which of the following is the oldest database model?</p>	<ol style="list-style-type: none"> 1. Relational 2. Deductive 3. Physical 4. Network 	
<p>Which of the following schemas does define a view or views of the database for particular users?</p>	<ol style="list-style-type: none"> 1. Internal schema 2. Conceptual schema 3. Physical schema 4. External schema 	

<p>Which of the following device is used to connect two systems, especially if the systems use different protocols?</p>	<ol style="list-style-type: none"> 1. Hub 2. bridge 3. gateway 4. repeater 	
<p>Which of the following is an attribute that can uniquely identify a row in a table?</p>	<ol style="list-style-type: none"> 1. Secondary key 2. Candidate key 3. Foreign key 4. Alternate key 	

<p>The synchronous modems are more costly than the asynchronous modems because</p>	<ol style="list-style-type: none"> 1. they produce large volume of data 2. they contain clock recovery circuits 3. they transmit the data with stop and start bits. 4. they operate with a larger bandwidth 	
<p>Which of the following is the process of selecting the data storage and data access characteristics of the database?</p>	<ol style="list-style-type: none"> 1. Logical database design 2. physical database design 3. Testing and performance tuning 4. Evaluation and selecting 	

<p>A distributed network configuration in which all data/information pass through a central computer is</p>	<ol style="list-style-type: none"> 1. bus network 2. star network 3. ring network 4. Point-to-point network 	
<p>Which of the following TCP/IP protocol allows an application program on one machine to send a datagram to an application program on another machine?</p>	<ol style="list-style-type: none"> 1. UDP 2. VMTP 3. X.25 4. SMTP 	
<p>Which of the following terms does refer to the correctness and completeness of the data in a database?</p>	<ol style="list-style-type: none"> 1. Data security 2. Data constraint 3. Data independence 4. Data integrity 	

<p>The relationship between DEPARTMENT and EMPLOYEE is a</p>	<ol style="list-style-type: none"> 1. One-to-one relationship 2. One-to-many relationship 3. Many-to-many relationship 4. Many-to-one relationship 	
<p>A table can be logically connected to another table by defining a</p> <p>Answer : common attribute</p>	<ol style="list-style-type: none"> 1. Super key 2. Candidate key 3. Primary key 4. Unique key 	

<p>If the state of the database no longer reflects a real state of the world that the database is supposed to capture, then such a state is called</p>	<ol style="list-style-type: none"> 1. Consistent state 2. Parallel state 3. Durable state 4. Inconsistent state 	
<p>Ensuring isolation property is the responsibility of the</p>	<ol style="list-style-type: none"> 1. Recovery-management component of the DBMS 2. Concurrency-control component of the DBMS 3. Transaction-management component of the DBMS 4. Buffer management component in DBMS 	

What will be printed as the output of the following program?

```
public class testincr
{
    public static void main(String args[])
    {
        int i = 0;
        i = i++ + i;
        System.out.println("i = " +i);
    }
}
```

1.
I = 0

2.
I = 1

3.
I = 2

4.
I = 3

Next state of B(t) will be

1.
B(t-1)

2.
B(t+1)

3.
B(t-2)

4.
B(t+2)

Which of the following ways is a pre-order traversal?

1.
Root->left sub tree->right sub tree

2.
Root->right sub tree->left sub tree

3.
right sub tree->left sub tree->Root

4.

	<p>1. 7402</p> <p>2. 7404</p> <p>3. 7401</p> <p>4. 7406</p>		
IC no of NOT gate	<p>1. SR Latch</p> <p>2. RS flipflop</p> <p>3. D flipflop</p> <p>4. master slave flipflop</p>		
Two cross coupled NAND gates make	<p>1. Stacks</p> <p>2. Queues</p> <p>3. Dequeues</p> <p>4. Binary Search Tree</p>		
Which data structure allows deleting data elements from and inserting at rear?	<p>1. Arrays</p> <p>2. Records</p> <p>3. Pointers</p> <p>4. Stacks</p>		
Which of the following data structure can't store the non-homogeneous data elements?			

<p>A is a data structure that organizes data similar to a line in the supermarket, where the first one in line is the first one out.</p>	<p>1.Queue as linked list 2.Stack as linked list 3.Both of them 4.Neither of them</p>	
<p>Header node is used in</p>	<p>1. Stacks 2. Queues 3. Linked List 4. Binary trees</p>	
<p>Which data structure is used in breadth first search of a graph to hold nodes?</p>	<p>1. Stack 2. Queue 3. Tree 4. Array</p>	
<p>Which of the following data structure is non linear type?</p>	<p>1. Strings 2. Lists 3. Stacks 4. Graphs</p>	

<p>Which of the following data structure has cycles?</p>	<ol style="list-style-type: none"> 1. Graphs 2. AVL trees 3. Binary search trees 4. Heap trees 	
<p>To represent hierarchical relationship between elements, Which data structure is suitable?</p>	<ol style="list-style-type: none"> 1. Dequeue 2. Priority queue 3. Tree 4. Graph 	
<p>..... form of access is used to add and remove nodes from a queue.</p>	<ol style="list-style-type: none"> 1. LIFO, Last In First Out 2. FIFO, First In First Out 3. Both a and b 4. Neither a nor b 	
<p>In liked representation of stack holds the elements of the stack.</p>	<ol style="list-style-type: none"> 1. INFO fields 2. TOP fields 3. LINK fields 4. NULL fields 	

<p>..... form of access is used to add remove nodes from a stack.</p>	<ol style="list-style-type: none"> 1. LIFO 2. FIFO 3. Both A and B 4. Neither A nor B 	
<p>In the linked representation of the stack behaves as the top pointer variable of stack.</p>	<ol style="list-style-type: none"> 1. Stop pointer 2. Begin pointer 3. Start pointer 4. Avail pointer 	
<p>What happens when you push a new node onto a stack?</p>	<ol style="list-style-type: none"> 1. The new node is placed at the front of the linked list 2. The new node is placed at the back of the linked list 3. The new node is placed at the middle of the linked list 4. No Changes happens 	

A queue is a	1. FIFO 2. FILO 3. LOFI 4. LIFO		
Which of the following name does not relate to stacks?	1. FIFO 2. LIFO 3. Piles 4. Push down		
The retrieval of items in a stack is operation.	1. push 2. pop 3. retrieval 4. access		
The term push and pop is related to	1. Trees 2. Stacks 3. Queues 4. Linked Lists		

<p>Mostly gates works on</p>	<ol style="list-style-type: none"> 1. 5 V 2. 4 V 3. 3 V 4. 2 V 	
<p>The term enqueue and dequeue is related to</p>	<ol style="list-style-type: none"> 1. Trees 2. Stacks 3. Queues 4. Linked Lists 	
<p>Which is the pointer associated with the stack?</p>	<ol style="list-style-type: none"> 1. FIRST 2. FRONT 3. TOP 4. REAR 	
<p>The elements are removal from a stack in order.</p>	<ol style="list-style-type: none"> 1. Hierarchical 2. Reverse 3. Alternate 4. Sequential 	

	<p>The insertion operation in the stack is called</p>	<ol style="list-style-type: none"> 1. insert 2. push 3. pop 4. top 		
	<p>..... is the term used to insert an element into stack.</p>	<ol style="list-style-type: none"> 1. Push 2. Pull 3. Pump 4. Pop 		
	<p>Stack follows the strategy of</p>	<ol style="list-style-type: none"> 1. LIFO 2. FIFO 3. LRU 4. RANDOM 		
	<p>..... is the term used to delete an element from the stack.</p>	<ol style="list-style-type: none"> 1. Push 2. Pull 3. Pop 4. Pump 		

<p>The operation of processing each element in the list is known as</p>	<ol style="list-style-type: none"> 1. Sorting 2. Merging 3. Inserting 4. Traversal 	
<p>Other name for directed graph is</p>	<ol style="list-style-type: none"> 1. Direct graph 2. Digraph 3. Dir - graph 4. Directional graph 	
<p>Binary trees with threads are called as</p>	<ol style="list-style-type: none"> 1. Threaded trees 2. Pointer trees 3. Special Trees 4. Special Pointer trees 	

<p>Every node N in a binary tree T except the root has a unique parent called the of N.</p>	<ol style="list-style-type: none"> 1. Antecedents 2. Predecessor 3. Forerunner 4. Precursor 	
<p>In a tree, between any two nodes, there is _____ -</p>	<ol style="list-style-type: none"> 1. No path 2. Atleast one path 3. Atmost one path 4. Exactly one path 	
<p>In a graph if $E=(u,v)$ means</p>	<ol style="list-style-type: none"> 1. u is adjacent to v but v is not adjacent to u 2. e begins at u and ends at v 3. u is processor and v is successor 4. v is processor and u is successor 	

	<p>TREE[1]=NULL indicates tree is</p>	<ol style="list-style-type: none"> 1. overflow 2. underflow 3. Empty 4. Full 		
	<p>A binary tree whose every node has either zero or two children is called</p>	<ol style="list-style-type: none"> 1. complete binary tree 2. binary search tree 3. extended binary tree 4. data structure 		
	<p>Linked representation of binary tree needs parallel arrays.</p>	<ol style="list-style-type: none"> 1. 4 2. 2 3. 3 4. 5 		
	<p>In a extended-binary tree nodes with 2 children are called</p>	<ol style="list-style-type: none"> 1. Interior Node 2. Domestic Node 3. Internal Node 4. Inner Node 		

<p>A terminal node in a binary tree is called</p>	<ol style="list-style-type: none"> 1. Root 2. Leaf 3. Child 4. Branch 	
<p>1. Which of the following ways is a in-order traversal?</p>	<ol style="list-style-type: none"> 1. Root->left sub tree-> right sub tree 2. Root->right sub tree-> left sub tree 3. left sub tree-> Root->right sub tree 4. 	
<p>1. Which of the following ways is a post-order traversal?</p> <p>Answer : left,right,root</p>	<ol style="list-style-type: none"> 1. Root->right sub tree-> left sub tree 2. Root->left sub tree-> right sub tree 3. right sub tree-> left sub tree->Root 4. 	
<p>An empty list is one which has no</p>	<ol style="list-style-type: none"> 1. nodes 2. data 3. nodes and data 4. address 	

<p>On which principle does queue work?</p>	<ol style="list-style-type: none"> 1. FILO 2. LIFO 3. LILO 4. FIFO 	
<p>1. A _____ tree is a tree where for each parent node, there is only one associated child node</p>	<ol style="list-style-type: none"> 1. balanced binary tree 2. rooted complete binary tree 3. complete binary tree 4. degenerate tree 	
<p>In _____ tree, the heights of the two child subtrees of any node differ by at most one</p>	<ol style="list-style-type: none"> 1. Binary tree 2. Red Black Tree 3. Splay tree 4. AVL tree 	

<p>Which of the following linked list below have only last node of the list pointing to the first node?</p>	<p>1. circular doubly linked list 2. circular linked list 3. circular singly linked list 4. doubly linked list</p>		
<p>The time required in best case for search operation in binary tree is</p>	<p>1. $O(n)$ 2. $O(1)$ 3. $O(2n)$ 4. $O(\log n)$</p>		

1. Which of the following statements hold true for binary trees?

1. The left subtree of a node contains only nodes with keys less than the node's key
2. The right subtree of a node contains only nodes with keys greater than the node's key.
3. The right subtree of a node contains only nodes with keys greater than the node's key and the left subtree of a node contains only nodes with keys less than the node's key
4. Both left and right subtree nodes contain only nodes with keys less than the node's key

<p>What is the peculiarity of red black trees?</p>	<ol style="list-style-type: none"> 1. In red-black trees, the root do not contain data. 2. In red-black trees, the leaf nodes are not relevant and do not contain data. 3. In red-black trees, the leaf nodes are relevant but do not contain data. 4. The nodes are red and black in colour 	
<p>7404 is a</p>	<ol style="list-style-type: none"> 1. single inverter 2. decimal inverter 3. hex inverter 4. binary inverter 	
<p>_____ acknowledges that we do not understand all the requirements and builds only those that are well understood</p>	<ol style="list-style-type: none"> 1. Throw away Prototyping 2. Paper prototyping 3. Evolutionary prototyping 4. Storyboarding 	

<p>_____ is an agile software development technique in which two programmers work together at one workstation</p>	<ol style="list-style-type: none"> 1.HP Programming 2. Pair programming 3. Usecase analysis 4. Prototyping 	
<p>Value of first linked list index is:</p>	<ol style="list-style-type: none"> 1. 1 2. -1 3. 0 4. 2 	
<p>Which of the following data structures can't store non-homogeneous data-elements:</p>	<ol style="list-style-type: none"> 1. Arrays 2. Records 3. Pointers 4. Structures 	
<p>Which of the following statements is false:</p>	<ol style="list-style-type: none"> 1.Arrays are static data structures 2.data elements in linked list need not be stored in adjacent space in memory 3. pointer stores the next data element of a list 4. linked lists are collection of nodes that contain information part and the next pointer 	

	<p>Which of the following is a two-way list:</p> <ol style="list-style-type: none"> 1. grounded header list 2. circular header list 3. linked list with header & trailer nodes 4. none of the above 		
	<p>The terms Tail and Head are related to</p> <ol style="list-style-type: none"> 1. Singly Linked List 2. Circular Linked list 3. Doubly Linked List 4. Queues 		
	<p>The depth of a complete binary tree is given by:</p> <ol style="list-style-type: none"> 1. $n \log n$ 2. $\log n$ 3. $n \log n + 1$ 4. $\log n + 1$ 		

<p>When representing any algebraic expression E which uses only binary operations in a 2-tree:</p>	<ol style="list-style-type: none"> 1. the variables in E will appear as external nodes and operations as internal nodes 2. the operations in E will appear as external nodes and variables as internal nodes 3. the variables and operations in E will appear only as internal nodes 4. the variables and operations in E appear only as external nodes 		
<p>An algorithm that calls itself directly or indirectly is known as:</p>	<ol style="list-style-type: none"> 1. Sub - Algorithm 2. Recursive Algorithm 3. Polish notation 4. Traversal Algorithm 		
<p>The inorder traversal of tree will yield a sorted listing of elements of tree:</p>	<ol style="list-style-type: none"> 1. Binary tree 2. Binary Search Tree 3. Heaps 4. Splays 		

<p>A _____ is a data-structure that organizes data similar to a line in the super-market, where the first one in the line is the first to be out:</p>	<ol style="list-style-type: none"> 1. Queues 2. Stacks 3. Arrays 4. Structures 	
<p>Which of the following abstract data types is not used by integer abstract data type group?</p>	<ol style="list-style-type: none"> 1. Short 2. int 3. Float 4. Long 	
<p>_____ model is suitable for software development ,when the requirements are well defined</p>	<ol style="list-style-type: none"> 1. Prototyping 2. Formal specification 3. Spiral 4. Waterfall 	

	<p>In a MAX heap tree</p> <ol style="list-style-type: none"> 1. value in a node is greater than every value in left subtree and smaller than right subtree 2. value in a node is greater than the values of its child nodes 3. value in a node is smaller than every value in left subtree and smaller than right subtree 4. value in a node is lesser than the values of its child nodes 		
The variables which can be accessed by all modules in a program, are known as:	<ol style="list-style-type: none"> 1. Local variables 2. External variables 3. Internal variables 4. Global variable 		

RAD stands for _____	1. Relative Application Development 2. Rapid Application Development 3. Rapid Application Document 4. Requirement Application Document		
The post order traversal of a binary tree is :DEBFCA, find out the preorder traversal:	1. ABFCDE 2. ADBFEC 3. ABDEC F 4. ABDCEF		
<p>_____ refers to the creation of a model that will eventually be discarded rather than becoming part of the final delivered software.</p>	1. Waterfall model 2. Throwaway prototyping 3. Analysis 4. Evolutionary prototyping		
The post order traversal of a binary tree is :DEBFCA, find out the preorder traversal:	1. BUBBLE-SORT 2. INSERTION SORT 3. QUICK SORT 4. SHELL SORT		

	<ol style="list-style-type: none"> 1. Polynomial evaluation 2. Postfix expression evaluation 3. Prefix expression evaluation 4. Distance evaluation 		
One of the applications of a linked list:			
A tree having any number of nodes:	<ol style="list-style-type: none"> 1. Binary tree 2. General tree 3. AVL tree 4. B tree 		
A set of several trees that are not linked to each other in any way	<ol style="list-style-type: none"> 1. Forests 2. Graphs 3. B Trees 4. AVL trees 		
What is the difference between binary coding and binary-coded decimal?	<ol style="list-style-type: none"> 1. BCD is pure binary. 2. Binary coding has a decimal format. 3. BCD has no decimal format. 4. Binary coding is pure binary. 		

<p>All the non-leaf nodes except the root node in a multi-way search tree of order, n have atleast children</p>	<ol style="list-style-type: none"> 1. n 2. n-1 3. 2n 4. n/2 	
<p>Heaps are of two types:</p>	<ol style="list-style-type: none"> 1. High and low 2. Max and Min 3. B and B+ 4. Complete and Binary 	
<p>Incase of min-heap, the value present in any node is:</p>	<ol style="list-style-type: none"> 1. greater than all its children 2. smaller than all its children 3. equal to all its children 4. greater than values in left subtree and smaller than values in right subtree 	

	<p>A min-heap is also known as:</p> <ol style="list-style-type: none"> 1. decreasing heap 2. Low heap 3. descending heap 4. Small heap 		
	<p>A max-heap is also known as:</p> <ol style="list-style-type: none"> 1. increasing heap 2. ascending heap 3. High heap 4. Big heap 		
	<p>A tree in which the value in every node is more than node-values in its left subtree and less than node-values in its right subtree:</p> <ol style="list-style-type: none"> 1. Binary search tree 2. AVL tree 3. B tree 4. Splay tree 		
_____ refers to user interface prototype	<ol style="list-style-type: none"> 1. vertical prototype 2. domain prototype 3. analysis prototype 4. horizontal prototype 		

Cache memory-	1. has greater capacity than RAM 2. is faster to access than CPU Registers 3. is permanent storage 4. faster to access than RAM		
A matrix which has most of its values equal to 0:	1. Sparse Matrix 2. Zero matrix 3. Empty matrix 4. Diagonal matrix		
A sparse matrix can also be represented using:	1. queue 2. Stack 3. tree 4. Linked List		
A B-tree grows at	1. root 2. leaves 3. branches 4. stem		

A binary tree grows at	1. root 2. leaves 3. branches 4. stem	
Shell sort is an improvisation over sort.	1. quick 2. insertion 3. merge 4. selection	
To reduce disk-accesses while searching for a record, the tree used is tree.	1. binary search tree 2. General tree 3. B tree 4. AVL tree	
While calculating time-complexity, the program-time which is considered is:	1. compile time 2. Execution time 3. run time 4. Analysis time	

<p>_____ provides a broad view of an entire system or subsystem, focusing on user interaction more than low-level system functionality, such as database access.</p>	<ol style="list-style-type: none"> 1. Rapid prototype 2. Analysis prototype 3. Horizontal prototype 4. Vertical prototype 	
<p>The time complexity of the following algorithm is:</p> <pre>sum(a,n) { s=0; for i= 1 to n { s=s+a[i]; } return s;</pre>	<ol style="list-style-type: none"> 1. $3n+2$ 2. $2n+3$ 3. $n+1$ 4. $2n+2$ 	
<p>Complexity of heap sort</p>	<ol style="list-style-type: none"> 1. $O(n)$ 2. $O(2n)$ 3. $O(\log n)$ 4. $O(n \log n)$ 	

<p>_____ clarifies complex requirements by drilling down to actual system functionality.</p>	<ol style="list-style-type: none"> 1. Horizontal prototype 2. Vertical prototype 3. Analysis prototype 4. Domain prototype 	
<p>If there are more than one paths between two nodes, it is a:</p>	<ol style="list-style-type: none"> 1. tree 2. list 3. graph 4. path 	
<p>The leaf nodes of a tree have height equal to:</p>	<ol style="list-style-type: none"> 1. height of the tree 2. zero 3. one 4. degree 	
<p>Events are translated to _____ requests, which are sent either to the model or to the view</p>	<ol style="list-style-type: none"> 1. client 2. source 3. service 4. multiple 	

<p>A binary tree with n internal nodes has a max. of external nodes equal to:</p>	<ol style="list-style-type: none"> 1. n 2. $n+1$ 3. $n-1$ 4. $2n$ 		
<p>_____ can be suited to projects where requirements and scope are fixed, the product itself is firm and stable, and the technology is clearly understood</p>	<ol style="list-style-type: none"> 1. Incremental model 2. Prototyping model 3. Waterfall model 4. Spiral model 		
<p>Height of a full binary tree with n internal nodes is:</p>	<ol style="list-style-type: none"> 1. n 2. $\log n$ 3. $n \log n$ 4. $n-1$ 		
<p>The degree of a leaf node is:</p>	<ol style="list-style-type: none"> 1. -1 2. 1 3. 0 4. undefined 		

<p>A right in-threaded binary tree contains:</p>	<ol style="list-style-type: none"> 1. inorder successor 2. inorder predecessor 3. postorder successor 4. preorder successor 	
<p>_____ acknowledge the programmatic need for milestones, for keeping a project on track, but encourage iterations</p>	<ol style="list-style-type: none"> 1. Rational Unified Process 2. Waterfall model 3. Sequential model 4. Throw away Prototyping 	
<p>The algorithm used in dynamic memory allocation with minimum time:</p>	<ol style="list-style-type: none"> 1. First fit 2. Best fit 3. Worst fit 4. Next fit 	

	<p>_____ describes the spiral model as a "process model generator", where choices based on a project's risks generate an appropriate process model for the project.</p>	<p>1. Boehm</p> <p>2. Royce</p> <p>3. William Harry</p> <p>4. Pareto</p>		
	<p>Which of the following is/are the operations performed by kruskal's algorithm.</p> <p>i) sort the edges of G in increasing order by length ii) keep a subgraph S of G initially empty iii) builds a tree one vertex at a time</p>	<p>1. i, and ii only</p> <p>2. ii and iii only</p> <p>3. i and iii only</p> <p>4. All i, ii and iii</p>		
	<p>_____ prototype is an aid for exploring the problem domain</p>	<p>1. vertical</p> <p>2. analysis</p> <p>3. horizontal</p> <p>4. domain</p>		

<p>Rather than build a subgraph one edge at a time builds a tree one vertex at a time.</p>	<ol style="list-style-type: none"> 1. kruskal's algorithm 2. prim's algorithm 3. dijkstra algorithm 4. bellman ford algorithm 		
<p>..... is known as a greedy algorithm, because it chooses at each step the cheapest edge to add to subgraph S.</p>	<ol style="list-style-type: none"> 1. Kruskal's algorithm 2. Prim's algorithm 3. Dijkstra algorithm 4. Bellman ford algorithm 		
<p>The result of prim's algorithm is a total time bound of</p>	<ol style="list-style-type: none"> 1. $O(\log n)$ 2. $O(m+n \log n)$ 3. $O(mn)$ 4. $O(m \log n)$ 		

<p>The process updates the costs of all the vertices V, connected to a vertex U, if we could improve the best estimate of the shortest path to V by including (U,V) in the path to V.</p>	<ol style="list-style-type: none"> 1. Relaxation 2. Improvement 3. Shortening 4. Costing 	
<p>..... turns out that one can find the shortest paths from a given source to all points in a graph in the same time.</p>	<ol style="list-style-type: none"> 1. Kruskal's algorithm 2. Prim's algorithm 3. Dijkstra algorithm 4. Bellman ford algorithm 	
<p>..... keeps two sets of vertices; S, the set of vertices whose shortest paths from the source have already been determined and $V-S$, the remaining vertices.</p>	<ol style="list-style-type: none"> 1. Kruskal's algorithm 2. Prim's algorithm 3. Dijkstra algorithm 4. Bellman ford algorithm 	

	<p>..... is a more generalized single source shortest path algorithm which can find the shortest path in a graph with negative weighted edges.</p>	<ol style="list-style-type: none"> 1. Kruskal's algorithm 2. Prim's algorithm 3. Dijkstra algorithm 4. Bellman ford algorithm 		
	<p>A sample application of algorithm is to solve critical path problem, i.e. finding the longest path through a DAG.</p>	<ol style="list-style-type: none"> 1. DAG application path algorithm 2. DAG shortest path algorithm 3. DAG critical path algorithm 4. Bellman ford algorithm 		
	<p>The floyd-warshall all pairs shortest path algorithm computes the shortest paths between each pair of nodes in</p>	<ol style="list-style-type: none"> 1. $O(\log n)$ 2. $O(\log 2n)$ 3. $O(n^2)$ 4. $O(n^3)$ 		

<p>Dijkstra algorithm is also called the shortest path problem.</p>	<ol style="list-style-type: none"> 1. multiple source 2. single source 3. single destination 4. multiple destination 									
<p>Let LASTPOST, LASTIN and LASTPRE denote the last vertex visited in a postorder, inorder and preorder traversal. Respectively, of a complete binary tree. Which of the following is always true?</p>	<ol style="list-style-type: none"> 1. LASTIN = LASTPOST 2. LASTIN = LASTPRE 3. LASTPRE = LASTPOST 4. None of the above 									
<p>The most appropriate matching for the following pairs</p> <p>X: depth first search heap</p> <p>Y: breadth-first search queue</p> <p>Z: sorting stack</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">1:</td> <td style="width: 50%;">X—1 Y—2 Z-3</td> </tr> <tr> <td>2:</td> <td>X—3 Y—1 Z-2</td> </tr> <tr> <td>3:</td> <td>X—3 Y—2 Z-1</td> </tr> <tr> <td>4:</td> <td>X—2 Y—3 Z-1</td> </tr> </table>	1:	X—1 Y—2 Z-3	2:	X—3 Y—1 Z-2	3:	X—3 Y—2 Z-1	4:	X—2 Y—3 Z-1	
1:	X—1 Y—2 Z-3									
2:	X—3 Y—1 Z-2									
3:	X—3 Y—2 Z-1									
4:	X—2 Y—3 Z-1									

<p>Consider the following nested representation of binary trees: (X Y Z) indicates Y and Z are the left and right sub trees, respectively, of node X. Note that Y and Z may be NULL, or further nested. Which of the following represents a valid binary tree?</p>	<ol style="list-style-type: none"> 1. $(1 \ 2 \ (4 \ 5 \ 6 \ 7))$ 2. $(1 \ (2 \ 3 \ 4) \ 5 \ 6) \ 7)$ 3. $(1 \ (2 \ 3 \ 4)(5 \ 6 \ 7))$ 4. $(1 \ (2 \ 3 \ \text{NULL}) \ (4 \ 5))$ 	
<p>Let s be a sorted array of n integers. Let t(n) denote the time taken for the most efficient algorithm to determine if there are two elements with sum less than 1000 in s. which of the following statements is true?</p>	<ol style="list-style-type: none"> 1. $t(n)$ is $O(1)$ 2. $n < t(n) < n$ 3. $n \log 2 n < t(n) < n \log 3n$ 4. $t(n)$ is $O(n)$ 	
<p>_____ is often used for risk management when an exceptional risk that, though unlikely, would have catastrophic consequences.</p>	<ol style="list-style-type: none"> 1. Business usecase plan 2. Contingency plan 3. Catastrophic plan 4. Process Plan 	

<p>B+ trees are preferred to binary trees in databases because</p>	<ol style="list-style-type: none"> 1. Disk capacities are greater than memory capacities 2. Disk access is much slower than memory access 3. Disk data transfer rates are much less than memory data transfer rates 4. Disks are more reliable than memory 	
<p>Consider the label sequences obtained by the following pairs of traversals on a labeled binary tree. Which of these pairs identify a tree uniquely?</p> <p>i) preorder and postorder ii) inorder and postorder iii) preorder and inorder iv) level order and postorder</p>	<ol style="list-style-type: none"> 1. (i) only 2. (ii), (iii) 3. (iii) only 4. (iv) only 	

<p>The _____ is a software development process intended to produce software with a certifiable level of reliability.</p>	<ol style="list-style-type: none"> 1. design process 2. business process 3. software engineering process 4. cleanroom software engineering process 	
<p>The following numbers are inserted into an empty binary search tree in the given order: 10, 1, 3, 5, 15, 12, 16. What is the height of the binary search tree (the height is the maximum distance of a leaf node from the root)?</p>	<ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6. 	
<p>A data structure is required for storing a set of integers such that each of the following operations can be done in $(\log n)$ time, where n is the number of elements in the set.</p> <ul style="list-style-type: none"> o Deletion of the smallest element o Insertion of an element if it is not already present in the set <p>Which of the following data structures can be used for this purpose?</p>	<ol style="list-style-type: none"> 1. A heap can be used but not a balanced binary search tree 2. A balanced binary search tree can be used but not a heap 3. Both balanced binary search tree and heap can be used 4. Neither balanced binary search tree nor heap can be used 	

<p>The primary objective of _____ is to scope the system adequately as a basis for validating initial costing and budgets.</p>	<ol style="list-style-type: none"> 1. elaboration phase 2. construction phase 3. inception phase 4. transition phase 	
<p>The best data structure to check whether an arithmetic expression has balanced parentheses is a</p>	<ol style="list-style-type: none"> 1.Queue 2.List 3.Stack 4.Array 	
<p>_____ approach to systems development rapidly develops software to quickly and incrementally implement the design by using tools such as CASE.</p>	<ol style="list-style-type: none"> 1. SAD 2. RAD 3. MAC 4. CSC 	
<p>Level order traversal of a rooted tree can be done by starting from the root and performing</p>	<ol style="list-style-type: none"> 1. preorder traversal 2. in-order traversal 3. depth first search 4. breadth first search 	

<p>Postorder traversal of a given binary search tree, T produces the following sequence of keys</p> <p>10, 9, 23, 22, 27, 25, 15, 50, 95, 60, 40, 29</p> <p>Which one of the following sequences of keys can be the result of an in-order traversal of the tree T?</p>	<p>1. 9, 10, 15, 22, 23, 25, 27, 29, 40, 50, 60, 95</p> <p>2. 9, 10, 15, 22, 40, 50, 60, 95, 23, 25, 27, 29</p> <p>3. 29, 15, 9, 10, 25, 22, 23, 27, 40, 60, 50, 95</p> <p>4. 95, 50, 60, 40, 27, 23, 22, 25, 10, 9, 15, 29</p>	
<p>The RUP has determined a project life-cycle consisting of____ phases.</p>	<p>1. four</p> <p>2. five</p> <p>3. six</p> <p>4. seven</p>	
<p>The primary objective of_____ phase is to mitigate the key risk items identified by analysis up to the end of this phase.</p>	<p>1. inception</p> <p>2. elaboration</p> <p>3. construction</p> <p>4. transistion</p>	

<p>_____ uses same language to talk about analysis, design, programming and database design</p>	<ol style="list-style-type: none"> 1. Traditional software development approach 2. object oriented approach 3. waterfall approach 4. spiral approach 	
<p>_____ is an approach to software development that allows us to create objects that represent tangible elements of the business independent of how they are represented to the user through an interface or physically stored in a database.</p> <p>answer : ua</p>	<ol style="list-style-type: none"> 1. waterfall 2. Structured architecture 3. Layered Architecture 4. Software architecture 	
<p>Traditional software development approach is based on_____</p>	<ol style="list-style-type: none"> 1. classes and methods 2. Objects and Isolated data 3. functions and procedures 4. attributes 	
<p>_____ is the task of predicting correspondence</p>	<ol style="list-style-type: none"> 1. Validation 2. Verification 3. correctness 4. prediction 	

MVC stands for _____	1. Memento View Controller 2. Model View Controller 3. Model View Component 4. Movie View Controller		
Objects are grouped into _____	1. Classes 2. Methods 3. Procedures 4. Records		
All key stakeholders gathers together for a short but intensely focused period for _____	1. Ethanography 2. Requirement workshop 3. Interviewing 4. Business meeting		
Class diagram is a _____ aspect of collaboration	1. object 2. structural 3. behavioral 4. model		

<p>_____ is usually expressed in terms of bugs/LOC.</p>	<ol style="list-style-type: none"> 1. MTTR 2. Defect rate 3. MTTF 4. MHRT 			
<p>The conditions that must be present in order to start a use case is _____</p>	<ol style="list-style-type: none"> 1. start condition 2. precondition 3. postcondition 4. event tracking 			
<p>The complexity of binary search algorithm is</p>	<ol style="list-style-type: none"> 1. $O(n)$ 2. $O(\log n)$ 3. $O(\log n)$ 4. $O(n \log n)$ 			

<p>To access a structure element using a pointer, operator is used?</p>	<ol style="list-style-type: none"> 1. dot (.) 2. pointer (&) 3. pointer (*) 4. arrow (->) 	
<p>A search begins the search with the element that is located in the middle of array</p>	<ol style="list-style-type: none"> 1. Serial 2. Random 3. Parallel 4. Binary 	
<p>In the worst case, the number of comparisons needed to search a singly linked list of length n for a given element is</p>	<ol style="list-style-type: none"> 1. $\log 2n$ 2. $n/2$ 3. $\log n-1$ 4. n 	

<p>Which one of the following in place sorting algorithms needs the minimum number of swaps?</p>	<ol style="list-style-type: none"> 1. Quick sort 2. Insertion sort 3. Selection sort 4. Heap Sort 	
<p>Suppose the numbers 7, 5, 1, 8, 3, 6, 0, 9, 4, 2 are inserted in that order into an initially empty binary search tree. The binary search tree uses the usual ordering on natural numbers. What is the in-order traversal sequence of the resultant tree?</p>	<ol style="list-style-type: none"> 1. 7 5 1 0 3 2 4 6 8 9 2. 0 2 4 3 1 6 5 9 8 7 3. 0 1 2 3 4 5 6 7 8 9 4. 9 8 6 4 2 3 0 1 5 7 	
<p>The height of a binary tree is the maximum number of edges in any root to leaf path. The maximum number of nodes in a binary tree of height h is:</p>	<ol style="list-style-type: none"> 1. $2^{(h-1)-1}$ 2. $2^{(h+1)} - 1$ 3. $2^h + 1$ 4. $2^{(h+1)}$ 	
<p>Which of the following sorting algorithms has the lowest worst-case complexity?</p>	<ol style="list-style-type: none"> 1. Merge Sort 2. Quick Sort 3. Bubble Sort 4. Selection Sort 	

<p>What is the maximum height of any AVL-tree with 7 nodes? Assume that the height of a tree with a single node is 0.</p>	<ol style="list-style-type: none"> 1. 2. 3. 4. 5. 	
<p>Heap is an example of</p>	<ol style="list-style-type: none"> 1. complete binary tree 2. spanning tree 3. sparse tree 4. binary search tree 	
<p>To implement Dijkstra's shortest path algorithm on unweighted graphs so that it runs in linear time, the data structure to be used is:</p>	<ol style="list-style-type: none"> 1. Queue 2. Stack 3. B-Tree 4. Array 	

<p>Which one of the following is a key factor for preferring B-trees to binary search trees for indexing database relations?</p>	<ol style="list-style-type: none"> 1. Database relations have a large number of records 2. Database relations are sorted on the primary key 3. B-trees require less memory than binary search trees 4. Data transfer from disks is in blocks. 		
<p>The complexity of Bubble sort algorithm is</p>	<ol style="list-style-type: none"> 1. $O(n)$ 2. $O(\log n)$ 3. $O(n^2)$ 4. $O(n \log n)$ 		
<p>In a complete binary tree, the number of leaves with n internal nodes is:</p>	<ol style="list-style-type: none"> 1. $2n$ 2. $2(n-1)+1$ 3. $n+1$ 4. n 		

<p>The recurrence relation capturing the optimal time of the Tower of Hanoi problem with n discs is</p>	<ol style="list-style-type: none"> 1. $T(n) = 2T(n - 2) + 2$ 2. $T(n) = 2T(n - 1) + n$ 3. $T(n) = 2T(n/2) + 1$ 4. $T(n) = 2T(n - 1) + 1$ 	
<p>The preorder traversal sequence of a binary search tree is 30, 20, 10, 15, 25, 23, 39, 35, 42. Which one of the following is the postorder traversal sequence of the same tree?</p>	<ol style="list-style-type: none"> 1. 10, 20, 15, 23, 25, 35, 42, 39, 30 2. 15, 10, 25, 23, 20, 42, 35, 39, 30 3. 15, 20, 10, 23, 25, 42, 35, 39, 30 4. 15, 10, 23, 25, 20, 35, 42, 39, 30 	
<p>Which one of the below is not divide and conquer approach?</p>	<ol style="list-style-type: none"> 1. Insertion Sort 2. Merge Sort 3. Shell Sort 4. Heap Sort 	

<p>Which of the following algorithm is not stable?</p>	<ol style="list-style-type: none"> 1. Bubble Sort 2. Quick Sort 3. Merge Sort 4. Insertion Sort 	
<p>Which of the below given sorting techniques has highest best-case runtime complexity –</p>	<ol style="list-style-type: none"> 1. quick sort 2. selection sort 3. insertion sort 4. bubble sort 	
<p>Which of the following uses memoization?</p>	<ol style="list-style-type: none"> 1. Greedy approach 2. Divide and conquer approach 3. Dynamic programming approach 4. None of these 	

<p>From a complete graph, by removing maximum _____ edges, we can construct a spanning tree.</p>	<ol style="list-style-type: none"> 1. e-n+1 2. $n-e+1$ 3. $n+e-1$ 4. $e-n-1$ 		
<p>The time required to search an element in a linked of length n is</p>	<ol style="list-style-type: none"> 1. $O(n^2)$ 2. $O(n \log_2 n)$ 3. $O(n)$ 4. $O(\log_2 n)$ 		
<p>The complexity of linear search algorithm is</p>	<ol style="list-style-type: none"> 1. $O(n)$ 2. $O(\log n)$ 3. $O(\log n)$ 4. $O(n \log n)$ 		

<p>The complexity of Insertion sort algorithm is</p>	<ol style="list-style-type: none"> 1. $O(n)$ 2. $O(n^2)$ 3. $O(\log n)$ 4. $O(n \log n)$ 		
<p>The complexity of Merge sort algorithm is</p>	<ol style="list-style-type: none"> 1. $O(n)$ 2. $O(n \log n)$ 3. $O(n^2)$ 4. $O(\log n)$ 		
<p>Which of the following sorting algorithms does not have a worst case running time of $O(n^2)$</p>	<ol style="list-style-type: none"> 1. Insertion sort 2. Merge sort 3. Quick sort 4. Bubble sort 		

<p>To sort many large objects or structures, it would be most efficient to</p>	<ol style="list-style-type: none"> 1. Place them in an array and sort the array 2. Place pointers to them in an array and sort the array 3. Place them in a linked list and sort the linked list 4. Place references to them in an array and sort the array 	
<p>Which of the following sorting procedure is the slowest?</p>	<ol style="list-style-type: none"> 1. Quick Sort 2. Heap Sort 3. Shell Sort 4. Bubble Sort 	
<p>Which of the following algorithm design technique is used in the quick sort algorithm?</p>	<ol style="list-style-type: none"> 1. Dynamic programming 2. Backtracking 3. Divide and conquer 4. Greedy method 	

<p>The number of swapping needed to sort numbers 8,22,7,9,31,19,5,13 in ascending order using bubble sort is ?</p>	<ol style="list-style-type: none"> 1. 10 2. 12 3. 14 4. 16 		
<p>Which of the following statement is true ?</p> <p>ANSWER: OPTION 1,3,4</p>	<ol style="list-style-type: none"> 1. Optimal binary search tree construction can be performed efficiently using dynamic programming. 2. Breath first search cannot be used to find converted components of a graph. 3. Given the prefix and post fix walks over a binary tree. The binary tree cannot be uniquely constructed 4. Depth first search can be used to find connected components of a graph. 		
<p>Given two sorted lists of size m and n respectively. The number of comparisons needed in the worst case by the merge sort algorithm will be?</p>	<ol style="list-style-type: none"> 1. mn 2. $\max(m,n)$ 3. $\min(m,n)$ 4. $m+n-1$ 		

Merge sort uses ?	1. Divide and conquer strategy 2. Backtracking approach 3. Heuristic search 4. Greedy approach		
Given the statement , maruti.engine.bolts=25 . Which of the following is true?	1. Structure bolts is nested within structure engine 2. Structure engine is nested within structure maruti 3. Structure maruti is nested within structure engine 4. Structure maruti nested within structure bolts		
The following sequence of operation is performed on stack : push(1),push(2),pop,push(1),push(2),pop,pop,pop,push(2),pop. The sequence of popped out values are ?	1. 2,2,1,1,2 2. 2,2,1,2,2 3. 2,1,2,2,1 4. 2,1,2,2,2		

	<p>1.240</p> <p>2.</p> <p>858</p> <p>A multi-dimensional array <code>array[0:2, 10:20, 3:4, -10:2]</code> contains _____ elements.</p>		
	<p>3.390</p> <p>4.160</p>		
	<p>1. Monitor</p> <p>2. Function</p> <p>3. Program</p> <p>4. Structure</p>		

<p>Two dimensional arrays are also called ?</p>	<p>1. Matrices 2. Tables 3. Matrices and Tables 4. Neither Matrices nor table</p>	
<p>The expression X=4+2%-8 evaluates ?</p>	<p>1. -6 2. 6 3. 2 4. -2</p>	
<p>Determine which of the following is valid character constant ?</p>	<p>1. '//' 2. '\0' 3. 'xyz' 4. '\052'</p>	
<p>The operator is a technique to forcefully convert one data type to the other ?</p>	<p>1. Cast 2. Conversion 3. Type 4. Unary</p>	

<p>Which of the following numerical value is invalid constant ?</p>	<ol style="list-style-type: none"> 1. assignment operator 2. relational operator 3. logical operator 4. bitwise shift operator 	
<p>int a[10] will occupy _____ number of bits in the memory</p>	<ol style="list-style-type: none"> 1. 2. 10 3. 12 4. 20 	
<p>A two-dimensional array array[1:3, 1:3] contains _____ elements.</p>	<ol style="list-style-type: none"> 1. 3 2. 6 3. 9 4. 7 	
<p>A multi-dimensional array array[0:2, 10:20, 3:4, -10:2] contains _____ elements.</p>	<ol style="list-style-type: none"> 1. 240 2. 858 3. 390 4. 160 	

Which are the correct array initialization statements?

1.
`int A[3]={1,2,3};`
2.
`int A[3]={123};`
3.
`int A[3]=""123";`
4.
`int A[3]=1,2,3;`

Which of the following statements are wrong statements?

1.
Array is a linear data structure.
2.
Every element of array must be of same type.
3.
In array, Insert element is called push operation.
4.
Array is homogenous.

Which is not an application of array?

1.
Dense matrix
2.
Ordered list
3.
Sparse Matrix
4.
Linked List

<p>Which among the following pairs of operations is supported by an array ADT?</p>	<ol style="list-style-type: none"> 1. Store and Retrieve 2. Insert and Delete 3. Copy and Delete 4. Append and Copy 		
<p>The number of elements in array Array[1:u] is given by</p>	<ol style="list-style-type: none"> 1. $(1 - u)$ 2. (u) 3. $(u - 1 + 1)$ 4. $(u - 1 - 1)$ 		
<p>The number of elements in array Array[l1:u1, l2:u2] is given by</p>	<ol style="list-style-type: none"> 1. $(u_1 - l_1 - 1)(u_2 - l_2 - 1)$ 2. $(u_1 * u_2)$ 3. $(u_1 - l_1)(u_2 - l_2)$ 4. $(u_1 - l_1 + 1)(u_2 - l_2 + 1)$ 		

The number of elements in array
Array[l1:u1, l2:u2, l3:u3] is given by

1.
 $(u_1 - l_1 - 1)(u_2 - l_2 - 1)$
 $(u_3 - l_3 - 1)$

2.
 $(u_1 * u_2 * u_3)$

3.
 $(u_1 - l_1)(u_2 - l_2)(u_3 - l_3)$

4.
 $(u_1 - l_1 + 1)(u_2 - l_2 + 1)$
 $(u_3 - l_3 + 1)$

For the array A[1:u1, 1:u2] where α is the base address, A[i,1] has its address given by

1.
 $(i - 1)u_2$

2.
 $\alpha + (i - 1)u_2$

3.
 $\alpha + i * u_2$

4.
 $\alpha + (I - 1) * u_1$

_____ is a step-by-step procedure
for calculation

1.
Data Structure

2.
Abstract Data Type

3.
Primitive Data Type

4.
Algorithm

<p>A mathematical-model with a collection of operations defined on that model is called</p>	<ol style="list-style-type: none"> 1. Data structure 2. Abstract Data Type 3. Primitive Data Type 4. Algorithm 	
<p>Representation of data structure in memory is known as:</p>	<ol style="list-style-type: none"> 1. Recursive 2. Abstract data type 3. Storage structure 4. File structure 	
<p>Which of the following is considered an Abstract Data Type?</p>	<ol style="list-style-type: none"> 1. Array 2. reference variable 3. any of the primitive types (e.g., int, double, char) 4. Stack 	

<p>An algorithm must be generic enough to solve all problems of a particular class. This property is termed as _____.</p>	<ol style="list-style-type: none"> 1. Finiteness 2. Definiteness 3. Generality 4. Effectiveness 	
<p>The first step of development of an algorithm is</p>	<ol style="list-style-type: none"> 1. Problem analysis 2. Problem statement 3. Algorithm analysis 4. Implementation 	
<p>Input instance for which algorithm take minimum possible time is called</p>	<ol style="list-style-type: none"> 1. Worst case 2. Best case 3. Average case 4. Null Case 	

<p>Input instance for which algorithm take maximum possible time is called</p>	<ol style="list-style-type: none"> 1. Worst Case 2. Best Case 3. Average Case 4. Null Case 	
<p>Which case analysis appropriate when the response time of the algorithm is critical?</p>	<ol style="list-style-type: none"> 1. Worst case 2. Best case 3. Average Case 4. Null case 	
<p>The time complexity of the algorithm in a best case would be expressed as</p>	<ol style="list-style-type: none"> 1. $O(1)$ 2. $O(n)$ 3. $O(n^2)$ 4. $O(n+1)$ 	
<p>Which of the following name related to stacks?</p>	<ol style="list-style-type: none"> 1. Push 2. Pop 3. Top 4. All 	

<p>The term MAX and MIN is related to the</p>	<ol style="list-style-type: none"> 1. Stacks 2. Queues 3. Heaps 4. Splays 		
<p>Which of the following is the condition of circular queue overflow?</p>	<ol style="list-style-type: none"> 1. Front=0 and Rear=size 2. Front+1=Rear 3. Both a & b 4. Neither a nor b 		
<p>A data structure where elements can be added or removed at either end but not in the middle</p>	<ol style="list-style-type: none"> 1. Linked lists 2. Stacks 3. Queues 4. Deque 		
<p>In which notation operator comes between operand?</p>	<ol style="list-style-type: none"> 1. Infix 2. Inorder 3. Postfix 4. Prefix 		

In which notation operator is comes after operand?	1. Infix 2. Postfix 3. Prefix 4. Preorder	
In which notation operator is comes before operand?	1. Infix 2. Postfix 3. Postorder 4. Prefix	
Which of the following is not a application of Stack?	1. Evaluation of Police notation 2. Tower of Hanoi 3. Stack Machine 4. None	
Queue works on the principles FIFO	1. FCFS 2. LIFO 3. FCFS and LIFO 4. Neither FCFS nor LIFO	

<p>The infix expression for the postfix expression : $5,6,2+*12,4/-$</p> <p>ANSWER : 37</p>	<p>1. $5*(6+2)-12/4$</p> <p>2. $5+6-2*12/4$</p> <p>3. $(5+6)-2/12*4$</p> <p>4. None</p>		
<p>Answer of following postfix expression: $2,3,10+*8,2/-$</p>	<p>1. 20</p> <p>2. 22</p> <p>3. 23</p> <p>4. 25</p>		
<p>The postfix expression for the infix expression : $a+b*c/d$</p>	<p>1. $abc*d/+$</p> <p>2. $a*bcd/+$</p> <p>3. $ab*cd/+$</p> <p>4. $abcd*/+$</p>		

<p>The prefix expression for the infix expression : $a+b*c/d$</p>	<ol style="list-style-type: none"> 1. $+ab^*/cd$ 2. $+*ab/cd$ 3. $+a^*b/cd$ 4. None 	
<p>Which data structure will you use to evaluate prefix notation?</p>	<ol style="list-style-type: none"> 1. Queue 2. Stack 3. Array 4. Linked List 	
<p>Which of the following is not the operation on stack?</p>	<ol style="list-style-type: none"> 1. Push 2. Pop 3. Peep 4. Pull 	
<p>A node carries information regarding</p>	<ol style="list-style-type: none"> 1. Data 2. Link 3. Data and Link 4. None 	

A linked list is which type of data structure.	1. Linear 2. Non Linear 3. Hierarchical 4. None			
Type of storage is used to represent Lists	1. Random 2. Sequential 3. Dynamic 4. Logical			
Linear order linked list is provided through _____	1. variables 2. arrays 3. Pointer 4. Strings			

	<p>In a Single Link List _____ node contains no links.</p>	<ol style="list-style-type: none"> 1. First 2. Last 3. Last but one 4. middle 		
	<p>In Single Linked List a node contain minimum how many fields(assuming one for data).</p>	<ol style="list-style-type: none"> 1. 2 2. 3 3. 1 4. 0 		
	<p>Assembly language</p>	<ol style="list-style-type: none"> 1. uses alphabetic codes in place of binary numbers used in machine language 2. is the easiest language to write programs 3. need not be translated into machine language 4. is the easiest language to solve problems 		
	<p>Which of the following is lowest in memory hierarchy?</p>	<ol style="list-style-type: none"> 1. Cache memory 2. Secondary memory 3. Registers 4. RAM 		

<p>The addressing mode used in an instruction of the form ADD X Y, is</p> <p>Answer : index</p>	<ol style="list-style-type: none"> 1. Absolute 2. indirect 3. register direct 4. direct 	
<p>In a vectored interrupt</p>	<ol style="list-style-type: none"> 1. the branch address is assigned to a fixed location in memory 2. the interrupting source supplies the branch information to the processor through an interrupt vector 3. the branch address is obtained from a register in the processor 4. 	
<p>Von Neumann architecture is</p>	<ol style="list-style-type: none"> 1. SISD 2. SIMD 3. MIMD 4. MISD 	

	<p>Cache memory acts between</p> <ol style="list-style-type: none"> 1. CPU and RAM 2. RAM and ROM 3. CPU and Hard Disk 4. CPU and ROM 		
Write Through technique is used in which memory for updating the data	<ol style="list-style-type: none"> 1. Virtual memory 2. Main memory 3. Auxiliary memory 4. Cache memory 		
Generally Dynamic RAM is used as main memory in a computer system as it	<ol style="list-style-type: none"> 1. Consumes less power 2. has higher speed 3. has lower cell density 4. needs refreshing circuitry 		
The multiplicand register & multiplier register of a hardware circuit implementing booth's algorithm have (11101) & (1100). The result shall be	<ol style="list-style-type: none"> 1. (812) 10 2. (-12) 10 3. (12) 10 4. (-812) 10 		

Aging registers' are	1. Counters which indicate how long ago their associated pages have been referenced. () 2. Registers which keep track of when the program was last accessed. 3. Counters to keep track of last accessed instruction. 4. Counters to keep track of the latest data structures referred.		
A binary digit is called a	1. Bit 2. Byte 3. Number 4. Character		

<p>We indicate roles in E-R diagrams by labeling the lines that connect _____ to _____.</p>	<ol style="list-style-type: none"> 1. Diamond , diamond 2. Rectangle, diamond 3. Rectangle, rectangle 4. Diamond, rectangle 	
<p>An entity set that does not have sufficient attributes to form a primary key is termed a _____ .</p>	<ol style="list-style-type: none"> 1. Strong entity set 2. Variant set 3. Weak entity set 4. Variable set 	

<p>Status bit is also called</p>	<ol style="list-style-type: none"> 1. Binary bit 2. Flag bit 3. Signed bit 4. Unsigned bit 		
<p>For a weak entity set to be meaningful, it must be associated with another entity set, called the</p>	<ol style="list-style-type: none"> 1. Identifying set 2. Owner set 3. Neighbour set 4. Strong entity set 		

Weak entity set is represented as	1. Underline 2. Double line 3. Double diamond 4. Double rectangle	
An address in main memory is called	1. Physical address 2. Memory address 3. Logical address 4. Word address	

<p>If you were collecting and storing information about your music collection, an album would be considered a(n) _____.</p>	<ol style="list-style-type: none"> 1. Relation 2. Entity 3. Instance 4. Attribute 	
<p>What term is used to refer to a specific record in your music database; for instance; information stored about a specific album?</p>	<ol style="list-style-type: none"> 1. Relation 2. Instance 3. Table 4. Column 	

	<p>If the value $V(x)$ of the target operand is contained in the address field itself, the addressing mode is</p> <ol style="list-style-type: none"> 1. immediate. 2. direct. 3. indirect. 4. implied. 		
	<p>Let us consider <i>phone_number</i> ,which can take single or several values . Treating <i>phone_number</i> as an _____ permits instructors to have several phone numbers (including zero) associated with them.</p>	<ol style="list-style-type: none"> 1. Entity 2. Attribute 3. Relation 4. Value 	

<p>Given the basic ER and relational models, which of the following is INCORRECT?</p>	<ol style="list-style-type: none"> 1. An attribute of an entity can have more than one value 2. An attribute of an entity can be composite 3. In a row of a relational table, an attribute can have more than one value 4. In a row of a relational table, an attribute can have exactly one value or a NULL value 	
<p>can be represented in a signed magnitude format and in a 1's complement format as (</p>	<ol style="list-style-type: none"> 1. 100100 & 011011 2. 100100 & 111011 3. 011011 & 100100 4. 111011 & 100100 	

<p>Which of the following indicates the maximum number of entities that can be involved in a relationship?</p>	<ol style="list-style-type: none"> 1. Minimum cardinality 2. Maximum cardinality 3. ERD 4. Greater Entity Count 	
<p>What is a relationship called when it is maintained between two entities?</p>	<ol style="list-style-type: none"> 1. Unary 2. Binary 3. Ternary 4. Quaternary 	

<p>A primary key is combined with a foreign key creates</p>	<ol style="list-style-type: none"> 1. Parent-Child relationship between the tables that connect them 2. Many to many relationship between the tables that connect them 3. Network model between the tables that connect them 4. None of the mentioned 	
<p>What is the content of Stack Pointer (SP)?</p>	<ol style="list-style-type: none"> 1. Address of the current instruction 2. Address of the next instruction 3. Address of the top element of the stack 4. Size of the stack. 	

<p>Which of the following protocols ensures conflict serializability and safety from deadlocks?</p>	<ol style="list-style-type: none"> 1. Two-phase locking protocol 2. Time-stamp ordering protocol 3. Graph based protocol 4. Node based protocol 	
<p>The performance of cache memory is frequently measured in terms of a quantity called</p>	<ol style="list-style-type: none"> 1. Miss ratio. 2. Hit ratio. 3. Latency ratio. 4. Read ratio. 	

<p>In order to maintain transactional integrity and database consistency, what technology does a DBMS deploy?</p>	<ol style="list-style-type: none"> 1. Triggers 2. Pointers 3. Locks 4. Cursors 			
<p>A lock that allows concurrent transactions to access different rows of the same table is known as a</p>	<ol style="list-style-type: none"> 1. Database-level lock 2. Table-level lock 3. Page-level lock 4. Row-level lock 			

<p>An interface that provides I/O transfer of data directly to and from the memory unit and peripheral is termed as</p>	<ol style="list-style-type: none"> 1. DDA. 2. Serial interface. 3. BR. 4. DMA. 		
<p>What data structure can be used to check if a syntax has balanced parenthesis ?</p>	<ol style="list-style-type: none"> 1. Queue 2. Stack 3. Tree 4. List 		
<p>The memory unit that communicates directly with the CPU is called the</p>	<ol style="list-style-type: none"> 1. main memory 2. Secondary memory 3. shared memory 4. auxiliary memory. 		

<p>If transaction Ti gets an explicit lock on the file Fc in exclusive mode, then it has an _____ on all the records belonging to that file.</p>	<ol style="list-style-type: none"> 1. Explicit lock in exclusive mode 2. Implicit lock in shared mode 3. Explicit lock in shared mode. 4. Implicit lock in exclusive mode 		
<p>A linked-list is a _____ structure</p>	<ol style="list-style-type: none"> 1. Static 2. Array of 3. Dynamic 4. Fixed 		

	<p>A system is in a _____ state if there exists a set of transactions such that every transaction in the set is waiting for another transaction in the set.</p>	<p>1. Idle</p> <p>2. Waiting</p> <p>3. Deadlock</p> <p>4. Ready</p>		
	<p>Minimum number of spanning tree in a connected graph is</p>	<p>1. 0</p> <p>2. n</p> <p>3. $2n$</p> <p>4. 1</p>		

<p>The deadlock state can be changed back to stable state by using _____ statement.</p>	<ol style="list-style-type: none"> 1. Commit 2. Rollback 3. Savepoint 4. Deadlock 	
<p>When transaction T_i requests a data item currently held by T_j, T_i is allowed to wait only if it has a timestamp smaller than that of T_j (that is, T_i is older than T_j). Otherwise, T_i is rolled back (dies). This is</p>	<ol style="list-style-type: none"> 1. Wait-die 2. Wait-wound 3. Wound-wait 4. wait 	

<p>Which of the following has search efficiency of $O(1)$ –</p>	<ol style="list-style-type: none"> 1. Tree 2. Heap 3. Hash Table 4. Linked List 		
<p>Shell sort uses</p>	<ol style="list-style-type: none"> 1. Insertion Sort 2. Quick Sort 3. Merge Sort 4. Selection Sort 		
<p>A memory buffer used to accommodate a speed differential is called</p>	<ol style="list-style-type: none"> 1. stack pointer 2. cache 3. accumulator 4. disk buffer 		

<p>The most common addressing techniques employed by a CPU is</p> <p>Answer : all of these</p>	<ol style="list-style-type: none"> 1. immediate 2. direct 3. indirect 4. register 		
<p>. When transaction T_i requests a data item currently held by T_j, T_i is allowed to wait only if it has a timestamp larger than that of T_j (that is, T_i is younger than T_j). Otherwise, T_j is rolled back (T_j is wounded by T_i). This is</p>	<ol style="list-style-type: none"> 1. Wait-die 2. Wait-wound 3. Wound-wait 4. Wait 		

	<p>1. $O(V ^2)$</p> <p>2. $O(V \log V)$</p> <p>3. $O(E + V \log V)$</p> <p>4. None of these</p>		
What will be the running-time of Dijkstra's single source shortest path algorithm, if the graph $G(V,E)$ is stored in form of adjacency list and binary heap is used –	<p>1. fetch instruction</p> <p>2. decode instruction</p> <p>3. fetch operand</p> <p>4. calculate operand</p>		

<p>The deadlock in a set of transaction can be determined by</p>	<ol style="list-style-type: none"> 1. Read-only graph 2. Wait graph 3. Wait-for graph 4. All of the mentioned 	
<p>If the array is already sorted, which of these algorithms will exhibit the best performance</p>	<ol style="list-style-type: none"> 1. Merge Sort 2. Insertion Sort 3. Quick Sort 4. Heap Sort 	
<p>PC Program Counter is also called</p>	<ol style="list-style-type: none"> 1. instruction pointer 2. memory pointer 3. data counter 4. file pointer 	

<p>Which of the following is not a property of transactions?</p>	<ol style="list-style-type: none"> 1. Atomicity 2. Concurrency 3. Isolation 4. Redundancy 		
<p>Isolation of the transactions is ensured by</p>	<ol style="list-style-type: none"> 1. Transaction management 2. Application programmer 3. Concurrency control 4. Recovery management 		

<p>Constraint checking can be disabled in existing _____ and _____ constraints so that any data you modify or add to the table is not checked against the constraint.</p>	<ol style="list-style-type: none"> 1. CHECK, FOREIGN KEY 2. DELETE, FOREIGN KEY 3. CHECK, PRIMARY KEY 4. PRIMARY KEY, FOREIGN KEY 	
<p>IC of 7 segment display contains</p>	<ol style="list-style-type: none"> 1. 4 leds 2. 5 leds 3. 6 leds 4. 7 leds 	

<p>Problems occurs if we don't implement proper locking strategy</p>	<ol style="list-style-type: none"> 1. Dirty reads 2. Phantom reads 3. Lost updates 4. Unrepeatable reads 	
<p>Which of the following fixed database roles can add or remove user IDs?</p>	<ol style="list-style-type: none"> 1. db_accessadmin 2. db_securityadmin 3. db_setupadmin 4. db_sysadmin 	
<p>The memory address of the first element of an array is called</p>	<ol style="list-style-type: none"> 1. floor address 2. foundation address 3. first address 4. base address 	

<p>By default sql server has _____ isolation level</p>	<ol style="list-style-type: none"> 1. READ COMMITTED 2. READ UNCOMMITTED 3. SERIALIZABLE 4. REPEATABLE READ 	
<p>Addition of -6 and -13</p>	<ol style="list-style-type: none"> 1. 11101101 2. 11101010 3. 11101110 4. 11111010 	
<p>Whenever CPU detects an interrupt, what it do with current state ?</p>	<ol style="list-style-type: none"> 1. Save it 2. Discard it 3. Depends system to system 4. First finish it 	

<p>The address mapping is done, when the program is initially loaded is called ?</p>	<ol style="list-style-type: none"> 1. Relocation 2. Dynamic relocation 3. Static relocation 4. Executable relocation 			
<p>The unit which decodes and translates each instruction and generates the necessary enable signals for ALU and other units is called</p>	<ol style="list-style-type: none"> 1. ALU 2. Control Unit 3. CPU 4. Logical Unit 			
<p>The performance of the cache memory is measured in terms of ?</p>	<ol style="list-style-type: none"> 1. Hit Ratio 2. Chat Ratio 3. Copy Ratio 4. Data Ratio 			

<p>A set of physical addresses is also known as</p>	<ol style="list-style-type: none"> 1. Disk Space 2. Address Space 3. Memory Space 4. Locations 	
<p>___ read the data by reflecting pulses of laser beams on the surface</p>	<ol style="list-style-type: none"> 1. Magnetic disk 2. Optical disk 3. Floppy disk 4. ROM 	
<p>If a transaction is performed in a database and committed, the changes are taken to the previous state of transaction by</p>	<ol style="list-style-type: none"> 1. Flashback 2. Rollback 3. Redo 4. Cannot be done 	

<p>Which method is used to establish priority by serially connecting all devices that request an interrupt ?</p>	<ol style="list-style-type: none"> 1. Interrupt 2. Polling 3. Priority 4. Daisy chaining 	
<p>Each modification done in database transaction are first recorded into the</p>	<ol style="list-style-type: none"> 1. Harddrive 2. Log 3. Disk 4. Datamart 	

<p>When the transaction finishes the final statement the transaction enters into</p>	<ol style="list-style-type: none"> 1. Active state 2. Committed state 3. Partially committed state 4. Abort state 	
<p>Which is used for this and known as high speed buffer exist with almost each process ?</p>	<ol style="list-style-type: none"> 1. Primary 2. Secondary 3. Cache 4. RAM 	

<p>If the state of the database no longer reflects a real state of the world that the database is supposed to capture, then such a state is called</p>	<ol style="list-style-type: none"> 1. Consistent state 2. Parallel state 3. Atomic state 4. Inconsistent state 	
<p>In stack organization the insertion operation is known as ?</p>	<ol style="list-style-type: none"> 1. Pop 2. Push 3. Down 4. Upper 	

	<p>1. Serializability</p> <p>2. Atomicity</p> <p>3. Isolation</p> <p>4. Time stamping</p>		
_____ means that data used during the execution of a transaction cannot be used by a second transaction until the first one is completed.	<p>1. DMA</p> <p>2. Interrupt-initiated I/O</p> <p>3. IOP</p> <p>4. DCP</p>		

<p>In division, two operands (dividend and divisor) and answer (quotient) of divide are accompanied by a second answer called the</p>	<ol style="list-style-type: none"> 1. Reminder 2. Multiplier 3. Divisor 4. Trap 	
<p>A transaction is delimited by statements (or function calls) of the form _____.</p>	<ol style="list-style-type: none"> 1. Begin transaction and end transaction 2. Start transaction and stop transaction 3. Get transaction and post transaction 4. Read transaction and write transaction 	

Which of the following is not a state in transaction ?	<ol style="list-style-type: none">1. Active2. Terminated3. Aborted4. Partially committed	
Identify the characteristics of transactions	<ol style="list-style-type: none">1. Atomicity2. Durability3. Isolation4. All of the mentioned	

<p>Which of the following has “all-or-none” property ?</p>	<ol style="list-style-type: none"> 1. Atomicity 2. Durability 3. Isolation 4. All of the mentioned 	
<p>_____ diagrams are called as Implementation diagram.</p>	<ol style="list-style-type: none"> 1. Component and Collaboration 2. Component and State chart 3. Component and Deployment 4. Sequence and Collaboration 	
<p>A number in scientific notation, that has no leading 0s is called a</p>	<ol style="list-style-type: none"> 1. Denormalized number 2. Normalized number 3. Integers 4. Whole number 	

	<p>Human readable base representation of numbers is</p> <ol style="list-style-type: none"> 1. Binary 2. Decimal 3. Hex 4. Hexdecimal 		
Converting $(-2047)_{10}$ into a 32-bit 2	<ol style="list-style-type: none"> 1. $1111\ 1111\ 1111\ 1111\ 1111\ 1000$ $0000\ 000$ 2. $1111\ 1111\ 1111\ 1111\ 1111\ 1000$ $0000\ 1111$ 3. $1111\ 1111\ 1111\ 1111\ 1111\ 1000$ $1111\ 000$ 4. $0000\ 1111\ 1111\ 1111\ 1111\ 1000$ $0000\ 000$ 		
Information when is written in cache, both to block in cache and block present in lower-level memory, refers to	<ol style="list-style-type: none"> 1. Miss rate 2. Write-back 3. Write-through 4. Dirty bit 		

<p>Which of the following is not a limitation of binary search algorithm?</p>	<ol style="list-style-type: none"> 1. must use a sorted array 2. requirement of sorted array is expensive when a lot of insertion and deletions are needed 3. there must be a mechanism to access middle element directly 4. binary search algorithm is not efficient when the data elements are more than 1000. 	
<p>Which of the following data structure can't store the non-homogeneous data elements?</p>	<ol style="list-style-type: none"> 1. Arrays 2. Records 3. Pointers 4. None 	

<p>Which of the following statements are true?</p>	<ol style="list-style-type: none"> 1. Shortest remaining time first scheduling may cause starvation 2. Starvation may be caused by preemptive scheduling. 3. In terms of response time robin round is better than FCFS 4. All of the above statements are true 			
<p>Each data item in a record may be a group item composed of sub-items; those items which are indecomposable are called</p>	<ol style="list-style-type: none"> 1. elementary items 2. atoms 3. scalars 4. all of above 			

<p>A thread is usually defined as a ‘light weight process’ because an operating system (OS) maintains smaller data structures for a thread than for a process. In relation to this, which of the followings is TRUE?</p>	<ol style="list-style-type: none"> 1. On per-thread basis, the OS maintains only CPU register state 2. The OS does not maintain a separate stack for each thread 3. On per-thread basis, the OS does not maintain virtual memory state 4. On per thread basis, the OS maintains only scheduling and accounting information.
<p>_____ emphasize the use of events and states to determine the overall activity of the system.</p>	<ol style="list-style-type: none"> 1. State diagram 2. Usecase Diagram 3. Sequence Diagram 4. Component diagram
<p>Which of the following plays an important role in modern Operating Systems(OS)?</p>	<ol style="list-style-type: none"> 1. Kernel 2. Shell 3. Fork 4. none

FAT stands for	1. First Application Table 2. File Application Table 3. First Allocation Table 4. File Allocation Table			
BAT refers to...	1. Boot Files 2. Batch Files 3. Executable Files 4. None			
..... occur commonly in multitasking when two or more threads waiting for each other.	1. Kernel 2. Shell 3. Fork 4. Deadlock			

<p>The _____ is used when you have one case that is similar to another use case but does a bit more specialized</p>	<ol style="list-style-type: none"> 1. includes association 2. extends association 3. fix association 4. realize association 			
<p>Effect of change of input to more than one state is called</p>	<ol style="list-style-type: none"> 1. undefined condition 2. race condition 3. reset condition 4. ideal condition 			
<p>_____ diagrams show the configuration of run time processing elements and the software components,processes and objects that live in them</p>	<ol style="list-style-type: none"> 1. Usecase 2. Deployment 3. Activity 4. State Chart 			

<p>Which of the following will determine your choice of systems software for your computer?</p>	<ol style="list-style-type: none"> 1. Is the applications software you want to use compatible with it ? 2. Is it expensive ? 3. Is it compatible with your hardware ? 4. Both 1 and 3 	
<p>_____ in the textual description are considered to be methods of classes</p>	<ol style="list-style-type: none"> 1. Adjectives 2. Nouns 3. Pronouns 4. Verb 	
<p>Where can the Belady's anomaly occur?</p>	<ol style="list-style-type: none"> 1. LRU Page Replacement Policy 2. FIFO Page Replacement Policy 3. MRU Page Replacement Policy 4. Optimal Page Replacement Policy 	

<p>Which of the following is the creation of a virtual rather than actual version of an operating system?</p>	<ol style="list-style-type: none"> 1. Compression 2. Virtualization 3. Synchronization 4. Multithreading 	
<p>The property of transaction that persists all the crashes is</p>	<ol style="list-style-type: none"> 1. Atomicity 2. Durability 3. Isolation 4. All of the mentioned 	
<p>The database system must take special actions to ensure that transactions operate properly without interference from concurrently executing database statements. This property is referred to as</p>	<ol style="list-style-type: none"> 1. Atomicity 2. Durability 3. Isolation 4. All of the mentioned 	

<p>Which is a protocol that one program can use to request a service from a program of another computer on a network?</p>	<ol style="list-style-type: none"> 1. Remote Procedure Call 2. I/O Virtualization 3. Memory Virtualization 4. ParaVirtualization 	
<p>..... is mainly responsible for allocating the resources as per process requirement?</p>	<ol style="list-style-type: none"> 1. Software 2. RAM 3. Operating Systems 4. Compiler 	
<p>A _____ is a function or procedure that is defined for a class and typically can access the internal state of an object of that class to perform some operation</p>	<ol style="list-style-type: none"> 1. attribute 2. method 3. class 4. object 	

<p>Inheritance is the property of object-oriented systems that allows objects to be built from other</p> <hr/>	<ol style="list-style-type: none"> 1. attributes 2. objects 3. method 4. class 	
<p>_____ have no instances but define the common behaviors that can be inherited by more specific classes</p>	<ol style="list-style-type: none"> 1. Concrete class 2. Base class 3. Abstract classes 4. Facade class 	
<p>_____ is a version of software product developed in the early stages of product's life cycle for specific and experimental purposes.</p>	<ol style="list-style-type: none"> 1. Class 2. Prototype 3. Object 4. Requirements 	
<p>Round Robin(RR) scheduling algorithm is suitable for.....</p>	<ol style="list-style-type: none"> 1. Real Time Operating Systems 2. Embedded Operating Systems 3. Distributed Operating Systems 4. Time Sharing Operating Systems 	

<p>..... is mainly responsible for allocating the resources as per process requirement?</p>	<ol style="list-style-type: none"> 1. Software 2. RAM 3. Operating Systems 4. Compiler 		
<p>_____ is a scenario depicting a user system interaction</p>	<ol style="list-style-type: none"> 1. Use Case 2. Attribute 3. Class 4. Object 		
<p>Superclass -subclass relationships, also known as _____</p>	<ol style="list-style-type: none"> 1. Aggregation 2. Association 3. Generalization 4. Communication 		
<p>A _____ is instructive information that captures the essential structure and insight of a successfully family of proven solutions to a recurring problem that arises within certain context and system of forces</p>	<ol style="list-style-type: none"> 1. class 2. pattern 3. model 4. component 		

<p>_____ can be viewed as a collection of procedures or behaviours that, taken together, reflect the behaviour of a system over time.</p>	<ol style="list-style-type: none"> 1. Static model 2. Dynamic model 3. Implementation model 4. Architectural model 			
<p>..... is the process of switching of CPU from one thread to another.</p>	<ol style="list-style-type: none"> 1. Process handling 2. interrupt handling 3. Context switching 4. none 			
<p>..... is a special system software that is used to handle process scheduling in different ways.</p>	<ol style="list-style-type: none"> 1. Spawn 2. Scheduler 3. fork 4. none 			
<p>_____ denotes the measure of strength of association established by a connection from one object to another.</p>	<ol style="list-style-type: none"> 1. Cohesion 2. Coupling 3. Decomposition 4. Elaboration 			

<p>_____ is the interaction between software components or objects.</p>	<ol style="list-style-type: none"> 1. Aggregation 2. Coupling 3. Decomposition 4. Cohesion 	
<p>Which of the following is a scheduling algorithm that allows a process to move up and down between queues?</p>	<ol style="list-style-type: none"> 1. Round Robin(RR) scheduling 2. first Come First Served (FCFS) scheduling 3. Multilevel feedback queue scheduling 4. Shortest Job First (SJF) scheduling 	
<p>_____ provides a scheme for refining the subsystems or components of a software system or the relationship among them.</p>	<ol style="list-style-type: none"> 1. Decomposition 2. Design pattern 3. Architecture 4. MVC 	

<p>The concept of _____ is used to represent a system whose inside workings are not available for inspection.</p>	<ol style="list-style-type: none"> 1. Red box testing 2. black box testing 3. Glass box testing 4. White box testing 	
<p>..... process checks to ensure the components of the computer are operating and connected properly.</p>	<ol style="list-style-type: none"> 1. Editing 2. Saving 3. Booting 4. None of the above 	
<p>_____ is to test every statement in the objects method by executing it at least once.</p>	<ol style="list-style-type: none"> 1. Bottom up testing 2. Topup testing 3. Statement testing coverage 4. Integration testing 	
<p>_____ is the process of executing a program with the intent of finding errors.</p>	<ol style="list-style-type: none"> 1. Requirements Verification 2. Testing 3. Design verification 4. Code verification 	

	<p>_____ are assumptions or relationships among model elements specifying conditions and propositions that must be maintained as true.</p>	<ol style="list-style-type: none"> 1. Class 2. stereotype 3. constraints 4. Node 		
What is a shell		<ol style="list-style-type: none"> 1. is a hardware component 2. It is a command interpreter 3. It is a part in compiler 4. It is a tool in CPU scheduling 		
		<ol style="list-style-type: none"> 1. $1 \rightarrow A, 2 \rightarrow B, 3 \rightarrow C$ 2. $1 \rightarrow B, 2 \rightarrow C, 3 \rightarrow A$ 3. $1 \rightarrow A, 2 \rightarrow C, 3 \rightarrow B$ 4. $1 \rightarrow B, 2 \rightarrow A, 3 \rightarrow C$ 		

	<p>_____ usecase is not complete and has no initiation actors.</p>	<ol style="list-style-type: none"> 1. concrete usecase 2. Abstract usecase 3. State 4. Activity 		
	<p>Which of the following scheduling algorithms provide minimum average waiting time?</p>	<ol style="list-style-type: none"> 1. Round Robin (RR) 2. First come First Serve (FCFS) 3. Shortest Job First Scheduling 4. None of the above 		
	<p>Medium term scheduler is based on</p>	<ol style="list-style-type: none"> 1. Scroll in, Scroll out 2. Fetch in, Fetch out 3. Swap in, Swap out 4. None of the above 		
	<p>Which of the following is a type of Semaphores?</p>	<ol style="list-style-type: none"> 1. Binary Semaphore 2. Counting Semaphore 3. Both(1) & (2) 4. None of the above 		

<p>Relationship between clock output and master slave output gives</p>	<ol style="list-style-type: none"> 1. timing diagram 2. map 3. chart 4. table 	
<p>Which type of scheduler typically uses a FIFO or Priority queue?</p>	<ol style="list-style-type: none"> 1. Short Term Scheduler 2. Medium Term Scheduler 3. Long Term Scheduler 4. Job Scheduler 	
<p>..... are required to complete a critical task within a guaranteed amount of time.</p>	<ol style="list-style-type: none"> 1. Real Time Operating Systems 2. Multi Tasking Operating Systems 3. Distributed Operating Systems 4. None of the above 	

<p>Long Term Scheduler is a.....</p>	<ol style="list-style-type: none"> 1. CPU scheduler 2. process swapping scheduler 3. job scheduler 4. None of the above 	
<p>First Come First Serve(FCFS) is</p>	<ol style="list-style-type: none"> 1. Preemptive scheduling 2. Nonpreemptive scheduling 3. deadline scheduling 4. None of the above 	
<p>..... is a system call that causes the caller to block.</p>	<ol style="list-style-type: none"> 1. Await 2. sleep 3. Wakeup 4. None of the above 	

Dijkstra's banking algorithm for resource allocation is used for	1. Deadlock recovery 2. Deadlock avoidance 3. Deadlock detection 4. Deadlock prevention			
10's complement of 012398 is	1. 987802 2. 987602 3. 987902 4. 987502			
Which of the following is used to remove deadlock?	1. Preemption 2. Mutual Exclusion 3. Circular Wait 4. None of the above			

	<p>First Come First Serve (FCFS) Scheduling is.....</p> <ol style="list-style-type: none"> 1. used to reduce waiting time 2. easy to understand and implement 3. impossible to implement 4. None of the Above 		
..... is a system call of OS that is used to create a new process?	<ol style="list-style-type: none"> 1. Shell 2. Kernel 3. Fork 4. Thread 		
Which of the following is an example of Cooperative MultiTasking OS?	<ol style="list-style-type: none"> 1. Lynx OS 2. Mac OS 3. MS DOS 4. None of the above 		

	<p>The performance of Round Robin(RR) scheduling depends on.....</p> <ol style="list-style-type: none"> 1.quantum 2. priority 3. preemption 4. None of the above 		
	<p>Which of the following service is not supported by the OS?</p> <ol style="list-style-type: none"> 1. Compilation 2. Protection 3. I/O Operation 4. None of the above 		
	<p>..... occurs in a dynamic memory allocation system when most of the free blocks are too small to satisfy any request?</p> <ol style="list-style-type: none"> 1. Paging 2. Segmentation 3. Fragmentation 4. none 		

A p
rior
y
alg
orit
h m
ana
lysi
s
doe
s
not
incl
ude

1. Time Complexity
2. Space Complexity
3. Program Complexity
4. Time and Space Complexity

..... is generic and that can run on any OS.

1. Kernel level thread
2. User level thread
3. Both (1) & (2)
4. None of the above

Which of the following is multi threading model?

1. many to many relationship
2. many to one relationship
3. one to One relationship
4. All of the above

<p>.....files represent physical devices like printers, terminals etc.,</p>	<ol style="list-style-type: none"> 1. Ordinary files 2. Directory files 3. Special files 4. None of the above 	
<p>An interrupt that is reserved for unrecoverable memory errors is called.....</p>	<ol style="list-style-type: none"> 1. maskable interrupt 2. non maskable interrupt 3. Both (1) & (2) 4. None of the above 	
<p>Process Control Block (PCB) is also called.....</p>	<ol style="list-style-type: none"> 1. Program Control Block 2. Memory Control Block 3. Task Control Block 4. None of the above 	

	<p>The process that is currently being executed is called</p> <ol style="list-style-type: none"> 1. Waiting State 2. Running State 3. Ready state 4. None of the above 		
Full adder consists of	<ol style="list-style-type: none"> 1. 1 half adder 2. 2 half adders 3. 3 half adders 4. 4 half adders 		
..... holds the address of the next instruction to be executed?	<ol style="list-style-type: none"> 1. Accumulator 2. Stack Pointer 3. Status Register 4. Program Counter 		

<p>Effective bandwidth is bandwidth that network needs to allocate for the</p>	<ol style="list-style-type: none"> 1. Flow of Traffic 2. Flow of Data 3. Flow of Protocol 4. Flow of Amount 	
<p>Strobe S in a mux acts as</p>	<ol style="list-style-type: none"> 1. enable 2. reset 3. clear 4. stop 	
<p>The register is read by the host to get input</p>	<ol style="list-style-type: none"> 1. data out 2. data in 3. flow out 4. None 	

<p>In Quality of Service, Jitter is variation in delay for packets belonging to the</p>	<ol style="list-style-type: none"> 1. Data Flow 2. Same Flow 3. Protocol Flow 4. IP Flow 	
<p>Message queuing is managed by?</p>	<ol style="list-style-type: none"> 1. Shell 2. Kernel 3. Fork 4. None of the above 	
<p>Interrupt latency should be..... for Real Time Operating Systems (RTOS)?</p>	<ol style="list-style-type: none"> 1. minimal 2. maximum 3. zero 4. None of the above 	

<p>In Integrated Services, when a source makes a reservation, it needs to define a</p>	<ol style="list-style-type: none"> 1. Flow STCP 2. Flow Control 3. Flow Specification 4. Flow Solution 	
<p>Which is not a valid state of a thread?</p>	<ol style="list-style-type: none"> 1. running 2. blocked 3. parsing 4. None of the above 	
<p>Frames from one LAN can be transmitted to another LAN via the device</p>	<ol style="list-style-type: none"> 1. Router 2. Repeater 3. Modem 4. Bridge 	

<p>The register is read by the host to get input</p>	<ol style="list-style-type: none"> 1. data out 2. data in 3. flow out 4. None of the above 	
<p>Which of the following device is used to connect two systems, especially if the systems use different protocols?</p>	<ol style="list-style-type: none"> 1. repeater 2. hub 3. bridge 4. gateway 	
<p>What is a stub network?</p>	<ol style="list-style-type: none"> 1. A network with only one entry and no exit point. 2. A network with more than one exit point. 3. A network with more than one exit and entry point. 4. A network that has only one entry and exit point. 	

<p>Counters that transfer invalid states to valid states are called</p>	<ol style="list-style-type: none"> 1. valid counters 2. self starting counters 3. invalid counters 4. undefined counters 	
<p>_____ is the first schema to be designed when you are developing a DBMS</p>	<ol style="list-style-type: none"> 1. conceptual 2. relational 3. physical 4. hierarchical 	
<p>_____ states that only valid data will be written to the database.</p>	<ol style="list-style-type: none"> 1. Consistency 2. Atomicity 3. Durability 4. Isolation 	

<p>_____ users work on canned transactions</p>	<ol style="list-style-type: none"> 1. sophisticated 2. naïve 3. DBA 4. casual 		
<p>The set of all attributes of a relation is called default _____.</p>	<ol style="list-style-type: none"> 1. Primary Key 2. Super Key 3. Foreign Key 4. Alternate key 		

<p>Transaction processing is associated with everything below except</p>	<ol style="list-style-type: none"> 1. Producing detail summary or exception reports 2. Recording a business activity 3. Confirming a action or triggering a response 4. Maintaining a data 																	
<p>Match the following:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">A. Repeaters</td> <td style="width: 33%;">1. Data Link Layer</td> <td style="width: 33%;"></td> </tr> <tr> <td>B. Bridges</td> <td>2. Network Layer</td> <td>3.A--->3, B---->1, C--->2</td> </tr> <tr> <td>C. Routers</td> <td>3. Physical Layer</td> <td>2.A --->2, B--->3, C--->1</td> </tr> </table>	A. Repeaters	1. Data Link Layer		B. Bridges	2. Network Layer	3.A--->3, B---->1, C--->2	C. Routers	3. Physical Layer	2.A --->2, B--->3, C--->1	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">3.A--->3, B---->2, C--->1</td> <td style="width: 33%;"></td> <td style="width: 33%;"></td> </tr> <tr> <td>4.A--->1, B--->2, C--->3</td> <td></td> <td></td> </tr> </table>	3.A--->3, B---->2, C--->1			4.A--->1, B--->2, C--->3				
A. Repeaters	1. Data Link Layer																	
B. Bridges	2. Network Layer	3.A--->3, B---->1, C--->2																
C. Routers	3. Physical Layer	2.A --->2, B--->3, C--->1																
3.A--->3, B---->2, C--->1																		
4.A--->1, B--->2, C--->3																		

	<p>1. BEGIN</p> <p>2.</p> <p>SET TRANSACTION</p> <p>The Oracle RDBMS uses the _____ statement to declare a new transaction start and its properties.</p>		
In BCD no. 1010 has	<p>3. BEGIN TRANSACTION</p> <p>4. COMMIT</p> <p>1. meaning</p> <p>2. no meaning</p> <p>3. value</p> <p>4. Vcc</p>		

<p>_____ means that the data used during the execution of a transaction cannot be used by a second transaction until the first one is completed.</p>	<p>1. Consistency 2. Atomicity 3. Durability 4. Isolation</p>							
<p>Producer – Consumer problem, one of the classical problems of synchronization is also called.....</p>	<p>1. Bounded Buffer Problem 2. Readers Writers Problem 3. Dining Philosophers Problem 4. None of the above</p>							
<p>Match the following:</p> <table> <tbody> <tr> <td>1. Segments Link Layer</td> <td>A. Associated with Data</td> </tr> <tr> <td>2. Packets Layer</td> <td>B. Associated with Network</td> </tr> <tr> <td>3. Frames Layer</td> <td>C. Associated with Transport</td> </tr> </tbody> </table>	1. Segments Link Layer	A. Associated with Data	2. Packets Layer	B. Associated with Network	3. Frames Layer	C. Associated with Transport	<p>1. 1--->A; 2---->B; 3 --->C 2. 1--->A; 2---->C; 3 --->B 3. 1--->C; 2---->A; 3 --->B 4. 1-->C; 2---->B; 3 --->A</p>	
1. Segments Link Layer	A. Associated with Data							
2. Packets Layer	B. Associated with Network							
3. Frames Layer	C. Associated with Transport							

<p>In OSI network architecture, the dialogue control and token management are responsibilities of ?</p>	<ol style="list-style-type: none"> 1. network layer 2. session layer 3. transport layer 4. data link layer 		
<p>_____ is the description of the database</p>	<ol style="list-style-type: none"> 1. schema 2. schema construct 3. schema evolution 4. snapshot 		
<p>The advantage of DBMS over file systems is</p>	<ol style="list-style-type: none"> 1. self describing nature 2. Logical data independence 3. multiple user 4. Physical data independence 		

<p>..... is a classic synchronization problem that involves the allocation of limited resources amongst a group of processes in a deadlock free and starvation free manner.</p>	<ol style="list-style-type: none"> 1. Bounded Buffer Problem 2. Dining Philosophers Problem 3. Readers Writers Problem 4. None of the above 	
<p>The combination of selection and Cartesian product operators is _____ operator</p>	<ol style="list-style-type: none"> 1. Division 2. Set difference 3. Join 4. Union 	
<p>Java source codes are compiled and converted to</p>	<ol style="list-style-type: none"> 1. Objectcodes 2. Assemblycodes 3. Binarycodes 4. Bytecodes 	

<p>Which of the following is standard print command in Unix?</p>	<ol style="list-style-type: none"> 1. ncftp 2. lpr 3. ls 4. grep 		
<p>DBMS cannot be classified on</p>	<ol style="list-style-type: none"> 1. data model 2. Number of sites 3. Number of users 4. Concurrency level 		
<p>In Unix, “file” command is used to determine</p>	<ol style="list-style-type: none"> 1. file name 2. file type 3. file content 4. None of the above 		

<p>Two sub layers of OSI Data Link layer are which of the following?</p>	<ol style="list-style-type: none"> 1. Data Link Control, Physical Layer Control 2. Logical Link Control, Data Link Control 3. Media Access Control, Physical Layer Control 4. Logical Link Control, Media Access Control 	
<p>Minimal super key of a relation is called _____.</p>	<ol style="list-style-type: none"> 1. Primary Key 2. Super Key 3. Foreign Key 4. Alternate key 	
<p>In SQL, which command is used to issue multiple CREATE TABLE, CREATE VIEW and GRANT statements in a single transaction?</p>	<ol style="list-style-type: none"> 1. CREATE PACKAGE 2. CREATE SCHEMA 3. CREATE CLUSTER 4. All of the mentioned 	

	<p>The attributes in foreign key and primary key have the same _____.</p>	<ol style="list-style-type: none"> 1. Number of tuples 2. Number of attributes 3. Domain 4. Symbol 		
	<p>In SQL, the CREATE TABLESPACE is used</p>	<ol style="list-style-type: none"> 1. To create a place in the database for storage of scheme objects, rollback segments, and naming the data files to comprise the tablespace. 2. To create a database trigger. 3. To add/rename data files, to change storage 4. All of the mentioned 		

	<p>_____ join requires that the two join attributes have the same name in both relations.</p>	<ol style="list-style-type: none"> 1. Theta Join 2. Equi join 3. Self join 4. Natural join 		
	<p>_____ FD have same set of attributes on both sides.</p>	<ol style="list-style-type: none"> 1. 2. non-trivial 3. Fully 4. Partial 	Trivial	
In _____ Schedule only one transaction at a time is active.		<ol style="list-style-type: none"> 1. Conflict 2. view 3. serial 4. non serial 		

	<p>1.</p> <p>Scanner</p>		
The _____ identifies the language tokens in the text of the query.	<p>2. Parser</p> <p>3. Validation</p> <p>4. query tree</p>		
In _____ Schedule transactions are executing with interleaved process.	<p>1.</p> <p>Conflict</p> <p>2. view</p> <p>3. serial</p> <p>4. non serial</p>		

<p>..... is a system call that returns the process ID of current process.</p>	<ol style="list-style-type: none"> 1. getpid 2. wait 3. getppid 4. None of the above 		
<p>The _____ checks the query syntax to determine whether it is formulated according to the syntax rules of the query language.</p>	<ol style="list-style-type: none"> 1. Scanner 2. Parser 3. Validation 4. query tree 		
<p>One userlevel thread is mapped to many kernel level thread is known as....</p>	<ol style="list-style-type: none"> 1. One to Many model 2. One to One model 3. Many to One model 4. None of the above 		

<p>A demultiplexer has _____.</p>	<ol style="list-style-type: none"> 1. one data input and a number of selection inputs, and they have several outputs 2. one input and one output 3. several inputs and several outputs 4. several inputs and one output 	
<p>..... provides an Interface between the process and the Operating System</p>	<ol style="list-style-type: none"> 1. Synchronization 2. System call 3. Segmentation 4. None of the above 	
<p>The resolution of externally defined symbols is performed by?</p>	<ol style="list-style-type: none"> 1. Compiler 2. Assembler 3. Linker 4. None of the above 	

	<p>The participation constraints and cardinality ratio together called as _____ constraints.</p>	<p>1. Structural 2. Un Structural 3. Integrity 4. Referential</p>		
	<p>In Operating Systems, a single thread is termed as</p>	<p>1. Light Weight Process (LWP) 2. Heavy Weight Process (HWP) 3. Both (1) & (2) 4. None of the above</p>		
	<p>..... is a system call that runs an executable file into an existing process.</p>	<p>1. fork 2. wait 3. exec 4. None of the above</p>		

<p>Which of the following command is used to create terminal connection to another host in Unix?</p>	<ol style="list-style-type: none"> 1. ssh 2. scp 3. telnet 4. None of the above 	
<p>During _____ state, transaction issues read and write operations.</p>	<ol style="list-style-type: none"> 1. Active 2. committed 3. Partially committed 4. failed 	
<p>In Unix, “cat” command is used to display</p>	<ol style="list-style-type: none"> 1. file names 2. folder names 3. file contents 4. None of the above 	

	<p>_____ describe system services or functions</p> <ol style="list-style-type: none"> 1. NonFunctional requirements 2. Design constraints 3. attribute 4. Functional requirements 	
What will be the output of the program ?	<pre>class A { int x = 10; public void assign(int x) { x = x; System.out.println(this.x); } public static void main(String[] args) { new A().assign(100); } }</pre> <ol style="list-style-type: none"> 1. 10 2. 100 3. 0 4. compile-time error 	
What will be the output of the following program?	<pre>class B { static int count = 100; public void increment() { count++; } public static void main(String []args) { B b1 = new B(); b1.increment(); B b2 = new B(); System.out.println(b2.count); // line 13 } }</pre> <ol style="list-style-type: none"> 1. 100 2. 101 3. Error in line 13 4. 0 	

	<p>_____ is a structured document setting out detailed descriptions of the system services</p>	<ol style="list-style-type: none"> 1. Requirements specification document 2. User manual 3. Service document 4. Installation guide 		
	<p>Given the following code, which line will generate an error ?</p> <pre>class Test { static int x = 100; // line 3 int y = 200; // line 4 public static void main(String []args) { final int z; // line 7 z = x + y; // line 8 System.out.println(z); } }</pre>	<ol style="list-style-type: none"> 1. line 3 2. line 4 3. line 7 4. line 8 		

<p>Consider the following statements about user level threads and kernel level threads. Which one of the following statements is FALSE?</p>	<ol style="list-style-type: none"> 1. Context switch time is longer for kernel level threads than for user level threads 2. Related kernel level thread can be scheduled on different processors in a multiprocessor system 3. User level threads do not need any hardware support 4. Blocking one kernel level thread blocks all related threads
<p>What will happen if you try to compile and run the following code ?</p> <pre>class Test { int x; Test(int n) { System.out.println(x=n); // line 6 } public static void main(String [] args) { Test n = new Test(); // line 10 } }</pre>	<ol style="list-style-type: none"> 1. Program exits without printing anything 2. Compilation error at line 10 3. Compilation error at line 6 4. Run-time exception

<p>Prototyping is an important technique of</p> <hr/>	<ol style="list-style-type: none"> 1. requirements validation 2. requirement specification 3. feasibility study 4. coding 	
<p>What will be the Output?</p> <pre>class Animal { String name = "animal"; String makeNoise() { return "generic noise"; } } class Dog extends Animal { String name = "dog"; String makeNoise() { return "bark"; } } public class Test { public static void main(String[] args) { Animal an = new Dog(); System.out.println(an.name+ "+an.makeNoise()); } }</pre>	<ol style="list-style-type: none"> 1. animal generic noise 2. animal bark 3. dog bark 4. dog generic noise 	
<p>Requirements which change during development or when the system is in use are said to be</p> <hr/>	<ol style="list-style-type: none"> 1. stable requirement 2. volatile requirement 3. functional requirement 4. non functional requirement 	

<p>file system with 300 GByte disk uses a file descriptor with 8 direct block addresses, 1 indirect block address and 1 doubly indirect block address. The size of each disk block is 128 Bytes and the size of each disk block address is 8 Bytes. The maximum possible file size in this file system is</p>	<ol style="list-style-type: none"> 1. 3 KBytes 2. 35 KBytes 3. 280 KBytes 4. dependent on the size of the disk 	
<p>Which protocol working at the Transport layer provides a connectionless service between hosts?</p>	<ol style="list-style-type: none"> 1. ARP 2. TCP 3. IP 4. UDP 	
<p>super keyword in Java is used for?</p>	<ol style="list-style-type: none"> 1. to refer to immediate child class of a class. 2. to refer to immediate parent class of a class. 3. to refer to current class object. 4. to refer to static member of parent class. 	

What will be the Output?

```
class A
{
    public void m1()
    { System.out.println("A"); }
}
public class B extends A
{
    void m1()
    { System.out.println("B"); }

    public static void main(String
[ ]args)
{
    A a = new B();
    a.m1();
}
}
```

1. runtime error
2. A
3. B
4. compilation error

ICMP is primarily used for

1. forwarding
2. addressing
3. error and diagnostic functions
4. routing

_____ don't know what they really want

1. Analyst
2. Programmers
3. Designers
4. Stakeholders

<p>Which operator is used to check object-type at runtime?</p>	<ol style="list-style-type: none"> 1. ternary operator 2. instanceof operator 3. type operator 4. length operator 	
<p>Which of the following TCP/IP protocol is used for transferring electronic mail messages from one machine to another?</p>	<ol style="list-style-type: none"> 1. SMTP 2. SNMP 3. FTP 4. RPC 	
<p>Multiple inheritance is not supported in Java because?</p>	<ol style="list-style-type: none"> 1. To remove ambiguity and provide more maintainable and clear design. 2. Java is a Object oriented language. 3. Multiple inheritance is not an important feature. 4. All of above 	

<p>Let the time taken to switch between user and kernel modes of execution be t_1 while the time taken to switch between two processes be t_2. Which of the following is TRUE?</p>	<ol style="list-style-type: none"> 1. $t_1 > t_2$ 2. $t_1 = t_2$ 3. $t_1 < t_2$ 4. nothing can be said about the relation between t_1 and t_2 	
<p>Different _____ may have conflicting requirements</p>	<ol style="list-style-type: none"> 1. programmers 2. designers 3. stakeholders 4. analysts 	
<p>Predict Output, if the below code is run with given command?</p> <p>Command Line : java myprog good morning everyone</p> <pre>public class myprog { public static void main(String argv[]) { System.out.println(argv[1]) } }</pre>	<ol style="list-style-type: none"> 1. myprog 2. good 3. morning 4. everyone 	

What is the output of this program?

```
class conversion {
    public static void
main(String args[])
{
    double a = 295.04;
    int   b = 300;
    byte c = (byte) a;
    byte d = (byte) b;
    System.out.println(c +
" " + d);
}
```

1.
38 43
2.
39 44
3.
295 300
4.
295.4 300.6

Which of the following statements are true ?

I Shortest remaining time first scheduling may cause starvation
II Preemptive scheduling may cause starvation
III Round robin is better than FCFS in terms of response time

1.
I only
2.
I and III only
3.
II and III only
4.
I, II and III

What is the output of this program?

```
class average {  
    public static void  
main(String args[]){  
        double num[ ] = {5.5,  
10.1, 11, 12.8, 56.9, 2.5};  
        double result;  
        result = 0;  
        for (int i = 0; i < 6;  
++i)  
            result = result +  
num[i];  
        System.out.print(result/  
6);  
  
    }  
}
```

1. 16.34
2. 16.5555
3. 16.46666666666667
4. 16.4666666666

A system uses FIFO policy for page replacement. It has 4 page frames with no pages loaded to begin with . The system first accesses 100 distinct pages in some order and then accesses the same 100 pages but now in the reverse order .How many page faults will occur ?

1. 196
2. 197
3. 194
4. 198

The _____ may be used for user training before a final system is delivered

1. pattern
2. prototype
3. architecture
4. testcase

What is the output of this program?

```
class increment {
    public static void
main(String args[])
{
    int g = 3;
    System.out.print(++g *
8);
}
```

1.

24

2.

25

3.

32

4.

33

A multilevel page table is preferred in comparison to a single level page table for translating virtual address to physical address because

1.

It reduces the memory access time to read or write and memory location

2.

It helps to reduce the size of page table needed to implement the virtual address space of a process

3.

It is required by the translation lookaside buffer

4.

It helps to reduce the number of page faults in page replacement algorithms.

What is the output of this program?

```
class array_output {  
    public static void  
main(String args[]){  
        int array_variable [] =  
new int[10];  
        for (int i = 0; i < 10; +  
+i) {  
            array_variable[i] =  
i;  
  
System.out.print(array_variable[i]  
+ " ");  
            i++;  
        }  
    }  
}
```

1.
0 2 4 6 8

2.
1 3 5 7 9

3.
0 1 2 3 4 5 6 7 8 9

4.
1 2 3 4 5 6 7 8 9 10

_____ are a natural way to structure requirements elicitation

1.
feasibility study

2.
Viewpoints

3.
activity diagram

4.
component view

Consider a disk system with 100 cylinders. The requests to access the cylinders occur in following sequence :

4, 34, 10, 7, 19, 73, 2, 15, 6, 20

Assuming that the head is currently at cylinder 50, what is the time taken to satisfy all requests if it takes 1 ms to move from one cylinder to adjacent one and shortest seek time first policy is used ?

1.95ms

2.119 ms

3.233 ms

4.276 ms

Fill in the blank to compile the code successfully?

```
abstract class A
{
    int a = 100;
    public abstract void showA(); }

public class B extends A
{
    _____ // Fill
the blank

    public static void main(String
[ ]args)
    {
        A objA = new B();
        objA.showA();
    }
}
```

1.
public abstract void showA()
{ }
2.
public void showA() { }
3.
void showA() { }
4.
public B showA() { }

You have 10 users plugged into a hub running 10Mbps half-duplex. There is a server connected to the switch running 10Mbps half-duplex as well. How much bandwidth does each host have to the server?

1.
1 Mbps
2.
100 kbps
3.
10 Mbps
4.
2 Mbps

<p>Which of the following statement is true about an Interface?</p>	<ol style="list-style-type: none"> 1. Methods inside Interface can be static, final, native or strictfp. 2. Interface can not extend one or more other interface 3. Interface cannot implement a class. 4. Interface can not be nested inside another interface. 		
<p>A social scientists spends a considerable time observing and analysing how people actually work is said to be _____</p>	<ol style="list-style-type: none"> 1. analysis 2. ethnographic analysis 3. usecase analysis 4. design verification 		

<p>Which of the following is NOT true of deadlock prevention and deadlock avoidance schemes?</p>	<ol style="list-style-type: none"> 1. In deadlock prevention, the request for resources is always granted if the resulting state is safe 2. In deadlock avoidance, the request for resources is always granted if the result state is safe 3. Deadlock avoidance is less restrictive than deadlock prevention 4. Deadlock avoidance requires knowledge of resource requirements a priori 		
<p>The objective of _____ is to deliver a working system to end-users</p>	<ol style="list-style-type: none"> 1. designing 2. testing 3. throw away prototyping 4. evolutionary prototyping 		

Which of following is a valid class using the given code?

```
public interface A { public void showA(); }
```

1.

```
public class B  
extends A { public  
void showA(){} }
```
2.

```
public class B  
implements A { public  
abstract void showA()  
{} }
```
3.

```
public class B  
implements A { void  
showA(){} }
```
4.

```
public class B  
implements A { public  
void showA(){} }
```

Misunderstandings between software users and developers are exposed by _____

1. white box testing
2. testing
3. coding
4. prototyping

An _____, start with the best understood parts

1. throw away prototype
2. evolutionary prototype
3. design prototype
4. coding prototype

<p>Consider a set of n tasks with known runtimes , r1 r2..... rn to be run on a uniprocessor machine. Which of the following processor scheduling algorithms will result in the maximum throughput ?</p>	<ol style="list-style-type: none"> 1. First-come-First-Served 2. Round-Robin 3. SJF 4. Highest-Response-Ratio-Next 	
<p>The load instruction is mostly used to designate a transfer from memory to a processor register known as_____</p>	<ol style="list-style-type: none"> 1. Accumulator 2.Instruction Register 3. Program counter 4.Memory address Register 	
<p>In _____,the prototype is developed from an initial specification, delivered for experiment then discarded</p>	<ol style="list-style-type: none"> 1. evolutionary prototyping 2. throw away prototyping 3. design prototyping 4. user prototyping 	

<p>A group of bits that tell the computer to perform a specific operation is known as_____.</p>	<ol style="list-style-type: none"> 1. Instruction code 2. Micro-operation 3. Accumulator 4. Register 	
<p>Where does the swap space reside ?</p>	<ol style="list-style-type: none"> 1. Disk 2. RAM 3. ROM 4. On-chip cache 	

<p>If a host broadcasts a frame that includes a source and destination hardware address, and its purpose is to assign IP addresses to itself, which protocol at the Network layer does the host use?</p>	<ol style="list-style-type: none"> 1. RARP 2. ARPA 3. ICMP 4. TCP 	
<p>What are the different events in Triggers?</p>	<ol style="list-style-type: none"> 1. Define, Create 2. Drop, Comment 3. Insert, Update, Delete 4. Select, Commit 	

<p>Which is the subset of SQL commands used to manipulate Oracle Database Structures, including tables?</p>	<ol style="list-style-type: none"> 1. Data Definition Language 2. Data Manipulation Language 3. Data Described Language 4. Data Retrieval Language 	
<p>Which one of the following protocols is NOT used to resolve one form of address to another one?</p>	<ol style="list-style-type: none"> 1. ARP 2. DHCP 3. DNS 4. RARP 	
<p>You have an IP of 156.233.42.56 with a subnet mask of 7 bits. How many hosts and subnets are possible assuming that subnet 0 is not used?</p>	<ol style="list-style-type: none"> 1. 126 subnets and 510 hosts 2. 128 subnets and 512 hosts 3. 510 subnets and 126 hosts 4. 512 subnets and 128 hosts 	

<p>A k-bit field can specify any one of _____.</p>	<ol style="list-style-type: none"> 1. 3k registers 2. 2k registers 3. k2 registers 4. k3 registers 	
<p>Which of the following statements is false ?</p>	<ol style="list-style-type: none"> 1. Virtual memory implements the translation of a program's address space into physical memory address space. 2. Virtual memory increases the degree of multi-programming 3. Virtual memory allows each program to exceed the size of the primary memory. 4. Virtual memory reduces the context switching overhead. 	

<p>Which of the following is/are example(s) of stateful application layer protocols?</p> <p>(i) HTTP (ii) FTP (iii) TCP (iv) POP3</p>	<p>1. (ii) and (iv) only</p> <p>2. (i) and (ii) only</p> <p>3. (ii) and (iii) only</p> <p>4. (iv) only</p>	
<p>What is the default subnet mask for a class C network?</p>	<p>1. 255.0.0.0</p> <p>2. 127.0.0.1</p> <p>3. 255.255.255.0</p> <p>4. 255.255.0.0</p>	
<p>When you ping the loopback address, a packet is sent where?</p>	<p>1. Across the wire</p> <p>2. On the network</p> <p>3. Down through the layers of the IP architecture and then up the layers again</p> <p>4. through the loopback dongle</p>	

	<p>Which one of the following is a Class C IP address?</p> <p>1. 10.10.14.118</p> <p>2. 191.200.199.199</p> <p>3. 135.23.112.57</p> <p>4. 204.67.118.54</p>		
	<p>Which character function can be used to return a specified portion of a character string?</p> <p>1. INSTR</p> <p>2. SUBSTRING</p> <p>3. SUBSTR</p> <p>4. POS</p>		

<p>Which of the following is TRUE for the System Variable \$date\$?</p>	<ol style="list-style-type: none"> 1. Can be assigned to a global variable. 2. Can be assigned to any field only during design time. 3. Can be assigned to any variable or field during run time. 4. Can be assigned to a local variable. 	
<p>If an Ethernet port on a router were assigned an IP address of 172.16.112.1/25, what would be the valid subnet address of this host?</p>	<ol style="list-style-type: none"> 1. 172.16.96.0 2. 172.16.0.0 3. 172.16.112.0 4. 172.16.255.0 	

<p>The average time required to reach a storage location in memory and obtain its contents is called_____.</p>	<ol style="list-style-type: none"> 1. Latency time 2. Access time 3. Turnaround time 4. Response time. 	
<p>The SQL statement SELECT SUBSTR('123456789', INSTR('abcabcabc','b'), 4) FROM EMP; prints</p>	<ol style="list-style-type: none"> 1. 6789 2. 2345 3. 1234 4. 456789 	
<p>Which of the following SQL command can be used to modify existing data in a database table?</p>	<ol style="list-style-type: none"> 1. MODIFY 2. UPDATE 3. CHANGE 4. NEW 	

	<p>In Congestion, CBR stands for</p> <ol style="list-style-type: none"> 1. Control Bit Rate 2. Constant Bit Rate 3. Constant Byte Rate 4. Control Byte Rate 		
What is route poisoning?	<ol style="list-style-type: none"> 1. It describes when a router sets the metric for a downed link to infinity 2. It sends back the protocol received from a router as a poison pill, which stops the regular updates. 3. It is information received from a router that can't be sent back to the originating router. 4. It prevents regular update messages from reinstating a route that has just come up. 		
Control of shift register labeled as SH/LD =1 will	<ol style="list-style-type: none"> 1. shift 2. store 3. load 4. add 		

<p>When SQL statements are embedded inside 3GL, we call such a program as</p>	<ol style="list-style-type: none"> 1. Nested query 2. Nested programming 3. Distinct query 4. Embedded SQL 	
<p>_____ provides option for entering SQL queries as execution time, rather than at the development stage</p>	<ol style="list-style-type: none"> 1. PL/SQL 2. SQL*Plus 3. SQL 4. Dynamic SQL 	
<p>In Congestion Control, DVL stands for</p>	<ol style="list-style-type: none"> 1. Delay Versus Line 2. Delay Versus Lose 3. Delay Versus Load 4. Delay Versus Louden 	

<p>In Congestion Control, a bit can be set in a packet moving in direction opposite to congestion in</p>	<ol style="list-style-type: none"> 1. Backward Signaling 2. Implicit Signaling 3. Source Signaling 4. Data Signaling 	
<p>A packet which is sent by a node to source to inform it of congestion is called</p>	<ol style="list-style-type: none"> 1. Control Packet 2. Congestion Packet 3. Change Packet 4. Choke Packet 	
<p>n bits in operation code imply that there are _____ possible distinct</p>	<ol style="list-style-type: none"> 1. n^2 2. $2n$ 3. 2^n 4. n^2 	

Token bucket allows bursty traffic to be regulated at	1. maximum rate 2. minimum rate 3. both 4. none		
In Congestion Control, packet is put at end of input queue while waiting to be	1. Checked 2. Entered 3. Reached 4. Controlled		
The circuit converting binary data into decimal is _____.	1. Encoder 2. Decoder 3. Muitiplexer 4. Code converter		

<p>A three input NOR gate gives logic high output only when_____.</p>	<ol style="list-style-type: none"> 1. one input is high 2. one input is low 3. two input are low 4. all input are low 	
<p>_____ is a procedural extension of Oracle – SQL that offers language constructs similar to those in imperative programming languages.</p>	<ol style="list-style-type: none"> 1. SQL 2. PL/SQL 3. Advanced SQL 4. PQL 	
<p>Packets wait in a buffer (queue) until node is ready to process them in</p>	<ol style="list-style-type: none"> 1. Out-of-Order Ones 2. First-in First out 3. Out-of-Reach Ones 4. First-in-First Ones 	

	<p>_____ combines the data manipulating power of SQL with the data processing power of Procedural languages.</p>	<ol style="list-style-type: none"> 1. PL/SQL 2. SQL 3. Advanced SQL 4. PQL 		
	<p>In a _____ start with the least well-understood parts</p>	<ol style="list-style-type: none"> 1. UI prototype 2. design prototype 3. throw-away prototype 4. evolutionary prototype 		
	<p>A leaky bucket algorithm shapes bursty traffic into fixed-rate traffic by averaging the</p>	<ol style="list-style-type: none"> 1. Data Rate 2. Average Rate 3. Traffic Rate 4. Traffic Shaping 		

	<p>_____ has made PL/SQL code run faster without requiring any additional work on the part of the programmer.</p>	<p>1. SQL Server</p> <p>2. My SQL</p> <p>3. Oracle</p> <p>4. SQL Lite</p>		
	<p>The TTL field has value 10. How many routers (max) can process this datagram?</p>	<p>1. 11</p> <p>2. 5</p> <p>3. 10</p> <p>4. 1</p>		
	<p>A line of PL/SQL text contains groups of characters known as</p>	<p>1. Lexical Units</p> <p>2. Literals</p> <p>3. Textual Units</p> <p>4. Identifiers</p>		

<p>Which field helps to check rearrangement of the fragments?</p>	<ol style="list-style-type: none"> 1. offset 2. flag 3. TTL 4. identifier 	
<p>We use _____ name PL/SQL program objects and units.</p>	<ol style="list-style-type: none"> 1. Lexical Units 2. Literals 3. Delimiters 4. Identifiers 	
<p>A method to provide secure transmission of email is called ____.</p>	<ol style="list-style-type: none"> 1. TLS 2. SA 3. IPSec 4. PGP 	

<p>A _____ is an explicit numeric, character, string or Boolean value not represented by an identifier.</p>	<ol style="list-style-type: none"> 1. Comments 2. Literals 3. Delimiters 4. Identifiers 	
<p>Which of the following field of the TCP header tells how many bytes may be sent starting at the byte acknowledged?</p>	<ol style="list-style-type: none"> 1. TCP header length 2. Window size 3. Acknowledgement number 4. Urgent pointer 	
<p>The multiplicand register & multiplier register of a hardware circuit implementing booth's algorithm have (11101) & (1100). The result shall be ____.</p>	<ol style="list-style-type: none"> 1. (812)₁₀ 2. (-812)₁₀ 3. (-12)₁₀ 4. (12)₁₀ 	

	<p>If no header is specified, the block is said to be an _____ PL/SQL block</p> <ol style="list-style-type: none"> 1. Strong 2. Weak 3. Empty 4. Anonymous 		
	<p>If the data unit is 111111 and the divisor is 1010. In CRC method, what is the dividend at the transmission before division?</p> <ol style="list-style-type: none"> 1. 1111110000 2. 1111111010 3. 111111000 4. 		
	<p>Requirements which specify that the delivered product must behave in a particular way is _____</p> <ol style="list-style-type: none"> 1. design constraint 2. product requirement 3. organisational requirement 4. external requirement 		

	<p>The sum of $11101 + 10111$ equals _____.</p> <ol style="list-style-type: none"> 1. 110011 2. 100001 3. 110100 4. 100100 		
<p>_____ is a sequence of zero or more characters enclosed by single quotes.</p>	<ol style="list-style-type: none"> 1. Integers literal 2. String literal 3. String units 4. String label 		
<p>As the data packet moves from the upper to the lower layers, headers are _____.</p>	<ol style="list-style-type: none"> 1. Added 2. Removed 3. Rearranged 4. Modified 		

<p>In link state routing algorithm after the construction of link state packets, new routes are computed using:</p>	<ol style="list-style-type: none"> 1. DES algorithm 2. Dijkstra's algorithm 3. RSA algorithm 4. Packets 	
<p>Distance vector routing algorithm is a dynamic routing algorithm. The routing tables in distance vector routing algorithm are updated.....</p>	<ol style="list-style-type: none"> 1. automatically 2. by server 3. by exchanging information with neighbour nodes 4. with back up database 	
<p>In a packet switching network, if the message size is 48 bytes and each packet contains a header of 3 bytes. If 24 packets are required to transmit the message, the packet size is</p>	<ol style="list-style-type: none"> 1. 2 bytes 2. 1 byte 3. 4 bytes 4. 4.5 bytes 	

<p>A technique called _____ is used to create a subnetting effect</p>	<ol style="list-style-type: none"> 1. ARP 2. RARP 3. proxy ARP 4. none of the above 		
<p>In _____ forwarding, the destination address is a network address in the routing table</p>	<ol style="list-style-type: none"> 1. next-hop 2. network-specific 3. host-specific 4. default 		
<p>Reliability, Response time and Storage requirements are examples of _____</p>	<ol style="list-style-type: none"> 1. design constraint 2. functional requirement 3. non functional requirement 4. process standard 		

<p>Mandating a particular IDE, programming language or development method are examples of</p>	<ol style="list-style-type: none"> 1. product requirements 2. process requirements 3. organisational requirement 4. benchmarks 	
<p>The minimum number of NAND gates required to implement the Boolean function. $A + AB' + AB'C$ is equal to</p>	<ol style="list-style-type: none"> 1. Zero 2. 1 3. 4 4. 7 	
<p>_____ is the process of checking the requirements for validity, consistency, completeness, realism and verifiability.</p>	<ol style="list-style-type: none"> 1. Requirement gathering 2. Requirement specification 3. Requirement documentation 4. Requirements validation 	
<p>1. Which of the following statements is true ?</p>	<ol style="list-style-type: none"> 1. $(A + B)(A + C) = AC + BC$ 2. $(A + B)(A + C) = AB + C$ 3. $(A + B)(A + C) = A + BC$ 4. $(A + B)(A + C) = AC + B$ 	

<p>A graphical display of the fundamental products in a truth-table is known as</p>	<ol style="list-style-type: none"> 1. Mapping 2. Graphing 3. T-Map 4. K-Map 	
<p>Stable condition in transition table is given by expression</p>	<ol style="list-style-type: none"> 1. $Y=x$ 2. $X=x$ 3. $Y=y$ 4. $X=y$ 	
<p>SR latch consists of</p>	<ol style="list-style-type: none"> 1. 1 input 2. 2 inputs 3. 3 inputs 4. 4 inputs 	

Supervisor state is	1. never used 2. required to perform any I/O 3. entered by programs when they enter the processor 4. only allowed to the operating system	
In asynchronous circuits changes occur with change	1. inputs 2. outputs 3. clock pulses 4. time	
Present states of asynchronous circuits are also called	1. secondary variables 2. primary variables 3. excitation variables 4. short term memory	

Race in which stable state depends on order is called	1. critical race 2. identical race 3. non critical race 4. defined race			
Tools to support the early process activities of requirements and design are _____	1. Upper-CASE 2. Lower-CASE 3. Middle-CASE 4. CASE			
Wire introduces delay of	1. 1 ns 2. 2 ns 3. 3 ns 4. 4 ns			

<p>Tools to support later activities such as programming, debugging and testing are _____</p>	<ol style="list-style-type: none"> 1. Upper -CASE 2. Lower-CASE 3. CASE 4. Middle-CASE 	
<p>Software should not make wasteful use of system resources is termed as_____</p>	<ol style="list-style-type: none"> 1. productivity 2. usability 3. efficiency 4. reliability 	
<p>Instability condition can be determined from</p>	<ol style="list-style-type: none"> 1. table 2. map 3. graph 4. logic diagram 	
<p>Transition table that terminates in total stable state gives</p>	<ol style="list-style-type: none"> 1. sequence 2. series 3. unique sequence 4. unique series 	

	1.8 2.10 3.1 4.0		
Time delay device is memory element of	1. unclocked flip-flops 2. clocked flip-flops 3. synchronous circuits 4. asynchronous circuits		
Software must be usable by the users for which it was designed is termed as _____	1. productivity 2. usability 3. reliability 4. efficiency		
A system program that combines the separately compiled modules of a program into a form suitable for execution	1. load and go 2. assembler 3. linking loader 4. cross compiler		

	<p>Each logic gate gives delay of</p> <ol style="list-style-type: none"> 1. 2. 3. 4. 	<ol style="list-style-type: none"> 1 to 5 ns 2 to 10 ns 3 to 10 ns 3 to 5 ns 		
	<p>NAND latch works when both inputs are</p> <ol style="list-style-type: none"> 1. 2. 3. 4. 	<ol style="list-style-type: none"> 1 0 inverted don't cares 		
	<p>The strategy of allowing processes that are logically runnable to be temporarily suspended is called</p> <ol style="list-style-type: none"> 1. 2. 3. 4. 	<ol style="list-style-type: none"> preemptive scheduling non preemptive scheduling shortest job first first come first served 		

	<ol style="list-style-type: none"> 1. pulse transition 2. outputs 3. clock pulses 4. inputs 		
Change is state occurs during	<ol style="list-style-type: none"> 1. the dispatching of a task 2. the creation of a new process 3. the creation of a new job 4. increasing the priority of a task 		
Fork is	<ol style="list-style-type: none"> 1. is a natural consequence of virtual memory systems 2. always occurs on large computers 3. can be caused by poor paging algorithms 4. can always be avoided by swapping 		

Naming states is done in	1. transition table 2. stable state 3. flow table 4. excitation table		
Delay elements provide	1. large memory 2. outputs 3. clock pulses 4. short term memory		
Risks are explicitly assessed and resolved throughout the process in _____ model	1. spiral 2. prototyping 3. prototyping 4. waterfall		

Interprocess communication	1. allows processes to synchronize activity 2. is required for all processes 3. is usually done via disk drives 4. is never necessary			
<hr/> _____ affect schedule or resources	1. Product risks 2. Project risks 3. Business risks 4. Hardware risks			
<hr/> _____ affect the organisation developing or procuring the software	1. Emergent risks 2. Product risks 3. People risks 4. Business risks			

<p>Multiprogramming systems:</p>	<ol style="list-style-type: none"> 1. Are easier to develop than single programming systems 2. Execute each job faster 3. Are used only one large mainframe computers. 4. Execute more jobs in the same time period 		
<p>Which of the following addressing modes, facilitates access to an operand whose location is defined relative to the beginning of the data structure in which it appears?</p>	<ol style="list-style-type: none"> 1. ascending 2. sorting 3. index 4. indirect 		
<p>_____ involves executing the system with test cases that are derived from the specification of the real data to be processed by the system</p>	<ol style="list-style-type: none"> 1. Design verification 2. System testing 3. Debugging 4. Requirements validation 		

<p>A system program that sets up an executable program in main memory ready for execution is</p>	<ol style="list-style-type: none"> 1. assembler 2. linker 3. compiler 4. loader 	
<p>Which of the following are loaded into main memory when the computer is booted?</p>	<ol style="list-style-type: none"> 1. external command instructions 2. word processing instructions 3. utility programs 4. internal command instructions 	
<p>The FIFO algorithm</p>	<ol style="list-style-type: none"> 1. executes first the job that last entered the queue 2. executes first the job that first entered the queue 3. execute first the job that has been in the queue the longest 4. executes first the job with the least processor needs 	

<p>Individual components are tested is termed as _____</p>	<ol style="list-style-type: none"> 1. Regression testing 2. System testing 3. Module testing 4. Sub-system testing 	
<p>What is the name given to the organized collection of software that controls the overall operation of a computer?</p>	<ol style="list-style-type: none"> 1. Working system 2. Operating system 3. Controlling system 4. Peripheral system 	
<p>Testing with customer data to check that it is acceptable is termed as _____ testing</p>	<ol style="list-style-type: none"> 1. system testing 2. module testing 3. acceptance testing 4. integration testing 	

<p>Resolution of externally defined symbols is performed by</p>	<ol style="list-style-type: none"> 1. Loader 2. Assembler 3. Linker 4. Compiler 	
<p>_____ is concerned with modifying the system after it is in use</p>	<ol style="list-style-type: none"> 1. Design 2. Coding 3. Analysis 4. Evolution 	
<p>System generation:</p>	<ol style="list-style-type: none"> 1. is always quite simple 2. requires extensive tools to be understandable 3. is always very difficult 4. varies in difficulty between systems 	

	<p>1. Data</p> <p>2. Deliverables</p> <p>_____ are project results delivered to customers</p> <p>3. Milestones</p> <p>4. Output</p>		
A non-relocatable program is one which	<p>1. cannot be made to execute in any area of storage other than the one designated for it at the time of its coding or translation.</p> <p>2.can itself performs the relocation of its address-sensitive portions.</p> <p>3.consists of a program and relevant information for its relocation.</p> <p>4.None of the above</p>		
The memory allocation scheme subject to "external" fragmentation is	<p>1. segmentation</p> <p>2. swapping</p> <p>3. multiple contiguous fixed partitions</p> <p>4. pure demand paging</p>		

	<p>_____ show schedule against calendar time</p> <ol style="list-style-type: none"> 1. Activity chart 2. Bar charts 3. state chart 4. event chart 		
Memory management is :	<ol style="list-style-type: none"> 1. not used in modern operating system 2. replaced with virtual memory on current systems 3. not used on multiprogramming systems 4. critical for even the simplest operating systems 		
The set of pages that a process is currently using is called as	<ol style="list-style-type: none"> 1. Program 2. Page Group 3. Working Set 4. Working Group 		

<p>How is the capacity of running several program simultaneously known ?</p>	<ol style="list-style-type: none"> 1. Multiprocessing 2. Multiprogramming 3. Multisystem 4. Multi resources 	
<p>Which component performs the main or key tasks of operating system ?</p>	<ol style="list-style-type: none"> 1. Kernel 2. Shell 3. File system 4. Device driver 	
<p>What kind of system is it that several users can use simultaneously?</p>	<ol style="list-style-type: none"> 1. Multiuser system 2. Multilevel user system 3. single user system 4. Multiprocessing user system 	

<p>Which of the following memory management scheme loads all pages of a program from disk into main memory?</p>	<ol style="list-style-type: none"> 1. Paging 2. Demand paging 3. Demand segmentation. 4. Segmentation with paging 	
<p>The process of storing and restoring from PCB is called</p>	<ol style="list-style-type: none"> 1. Loading 2. Relocation 3. context switch. 4. Dispatcher 	
<p>_____ identifies the structural (part-of) relationships between entities</p>	<ol style="list-style-type: none"> 1. Data hiding 2. Projection 3. Partitioning 4. Abstraction 	

	<p>_____ identifies generalities among entities</p> <ol style="list-style-type: none"> 1. Process 2. Data hiding 3. Partitioning 4. Abstraction 		
Systematic manual analysis of the requirements are termed as _____	<ol style="list-style-type: none"> 1. Feasibility study 2. Requirements reviews 3. Requirements elicitation 4. Requirements specification 		
Using an executable model of the system to check requirements is termed as _____.	<ol style="list-style-type: none"> 1. Prototyping 2. Requirement reviews 3. Requirement validation 4. Requirement analysis 		
"Is the origin of the requirement clearly stated?" relates to _____	<ol style="list-style-type: none"> 1. Traceability 2. Verifiability 3. Adaptability 4. Comprehensibility 		

<p>Requirements that emerge as understanding of the system develops is termed as_____</p>	<ol style="list-style-type: none"> 1. Mutable requirements 2. Emergent requirements 3. Consequential requirements 4. Compatibility requirements 			
<p>The _____ is an iterative software development process framework created by the Rational Software Corporation</p>	<ol style="list-style-type: none"> 1. Spiral model 2. Rational Unified Process 3. Rational Prototyping 4. Waterfall 			
<p>___ is the process of determining correctness.</p>	<ol style="list-style-type: none"> 1. Prediction 2. Verification 3. correctness 4. Validation 			

<p>FAST stands for _____</p>	<ol style="list-style-type: none"> 1. Functional Application Specification Technique 2. Fast Application Specification Technique 3. Facilitated Application Specification Technique 4. Facility Architecture Software Test 	
<p>Links between dependent requirements refers to _____</p>	<ol style="list-style-type: none"> 1. Design traceability 2. Requirement traceability 3. Source traceability 4. Feature traceability 	
<p>Links from the requirements to the design refers to _____ traceability</p>	<ol style="list-style-type: none"> 1. Design 2. Requirements 3. Source 4. Destination 	

	<p>_____ helps the analyst to understand the functionality of the system and models are used to communicate with customers</p>	<ol style="list-style-type: none"> 1. Business modelling 2. Project scheduling 3. System modelling 4. Project planning 		
	<p>_____ shows the system's context or environment</p>	<ol style="list-style-type: none"> 1. Behavioural perspective 2. Structural perspective 3. Cognitive perspective 4. External perspective 		
	<p>_____ perspective shows the system or data architecture</p>	<ol style="list-style-type: none"> 1. Source 2. Structural 3. Behavioral 4. External 		
	<p>How do we define a destructor?</p>	<ol style="list-style-type: none"> 1. $X \sim 0 \{ \}$ 2. $X() \{ \sim$ 3. $X() \sim \{ \}$ 4. $\sim X 0 \{ \}$ 		

<p>_____ model shows how entities are composed of other entities</p>	<ol style="list-style-type: none"> 1. Stimulus response 2. Data processing 3. Composition 4. Architectural 		
--	---	--	--

<p>_____ shows how entities have common characteristics</p>	<ol style="list-style-type: none"> 1. Data processing model 2. Classification model 3. Architectural model 4. Stimulus/response model 		
<p>_____ shows the system's reaction to events</p>	<ol style="list-style-type: none"> 1. Data processing model 2. Composition model 3. Stimulus/response model 4. Classification model 		

<p>_____ are used to illustrate the boundaries of a system</p>	<ol style="list-style-type: none"> 1. Data models 2. Context models 3. ER models 4. Entity models 	
<p>_____ show the a system and its relationship with other systems</p>	<ol style="list-style-type: none"> 1. Data models 2. Context models 3. Architectural models 4. Entity models 	
<p>_____ may be used to show the processes and the flow of information from one process to another</p>	<ol style="list-style-type: none"> 1. Data flow models 2. ER model 3. Architecture model 4. Context models 	
<p>_____ models that show the systems response to events</p>	<ol style="list-style-type: none"> 1. ER diagram 2. State machine 3. Context diagram 4. Event diagram 	

<p>_____ are used to describe the logical structure of data processed by the system</p>	<ol style="list-style-type: none"> 1. State machine 2. Context model 3. Architectural model 4. Semantic data models 	
<p>_____ are lists of all of the names used in the system models.</p>	<ol style="list-style-type: none"> 1. System model list 2. Data dictionaries 3. HAsh table 4. Entity list 	
<p>_____ are rectangles with the name at the top, attributes in the middle section and operations in the bottom section</p>	<ol style="list-style-type: none"> 1. DFD 2. State machine 3. Object classes 4. Entity 	
<p>_____ is referred to as generalisation and is shown ‘upwards’ rather than ‘downwards’ in a hierarchy</p>	<ol style="list-style-type: none"> 1. Aggregation 2. Inheritance 3. Composition 4. Decomposition 	

<p>A system which supports _____ allows object classes to inherit from several super-classes</p>	<ol style="list-style-type: none"> 1. Multi path inheritance 2. Hierarchical inheritance 3. Multiple inheritance 4. Simple Inheritance 	
<p>_____ in the UML are used to model interaction between objects</p>	<ol style="list-style-type: none"> 1. Usecase diagram 2. State machine 3. Sequence diagrams 4. Component diagram 	
<p>_____ is an inherent part of most prototype development systems</p>	<ol style="list-style-type: none"> 1. Traditional programming 2. DOS Programming 3.Fortran Programming 4. Visual programming 	
<p>_____ can be created quickly from a set of reusable components plus some mechanism to ‘glue’ these component together</p>	<ol style="list-style-type: none"> 1. Design 2. Entity 3. Prototypes 4. Component 	

<p>_____ may be used to ‘draw’ the interface and simulate its functionality with components associated with interface entities</p>	<ol style="list-style-type: none"> 1. Developer 2. visual generators 3. User interface generators 4. Program generators 	
<p>_____ techniques include the use of very high-level languages, database programming and prototype construction from reusable components</p>	<ol style="list-style-type: none"> 1. Requirement analysis 2. Prototyping 3. Implementation 4. Design 	
<p>_____ are expressed in a mathematical notation with precisely defined vocabulary, syntax and semantics.</p>	<ol style="list-style-type: none"> 1. Formal specifications 2. Data specifications 3. Requirements specification 4. Design specifications 	
<p>The _____ notation is a mature technique for model-based specification.</p>	<ol style="list-style-type: none"> 1. K 2. F 3. Z 4. R 	

<p>The design process for identifying the subsystems making up a system and the framework for sub-system control and communication is _____</p>	<p>1. architectural design 2. form design 3. layer design 4. design</p>	
<p>Asynchronous sequential logic circuits are used when primary need is</p>	<p>1. time 2. pressure 3. speed 4. accuracy</p>	
<p>Internal state and input values altogether are called</p>	<p>1. full state 2. total state 3. initial state 4. output state</p>	

	<p>Change in state from 00 to 11 will cause change in</p> <ol style="list-style-type: none"> 1. first variable 2. second variable 3. third variable 4. all variables
Third step of making transition table is	<ol style="list-style-type: none"> 1. determining feedback loop 2. designating output of loops 3. deriving functions of Y 4. plotting Y
Code conversion circuits mostly uses	<ol style="list-style-type: none"> 1. AND-OR gates 2. AND gates 3. OR gates 4. XOR gates

3 bits full adder contains	1. 3 combinational inputs 2. 4 combinational inputs 3. 6 combinational inputs 4. 8 combinational inputs
Nor function is dual of	1. and function 2. or function 3. xor function 4. nand function
Simplified expression of half adder carry is	1. $c=xy+x$ 2. $c=y+x$ 3. $c=xy+y$ 4. $c=xy$

<p>Subtraction of two binary numbers is done by taking complementing</p>	<p>1. output 2. subtract 3. subtrahend 4. remainder</p>	
<p>Circuits that employs memory elements in addition to gates is called</p>	<p>1. combinational circuit 2. sequential circuit 3. combinational sequence 4. series</p>	
<p>When both inputs are 1 output of xor is</p>	<p>1. 1 2. 0 3. x 4. 10</p>	

	<p>1. $c=xy+xz+yz$</p> <p>2. $c=xy+xz$</p> <p>3. $c=xy+yz$</p> <p>4. $c=x+y+z$</p>
Simplified expression of full adder carry is	<p>1. complemented</p> <p>2. borrowed</p> <p>3. shifted</p> <p>4. primed</p>
Subtractor also have output to check if 1 has been	<p>1. demux</p> <p>2. mux</p> <p>3. full subtractor</p> <p>4. half subtractor</p>
Two bit subtraction is done by	

<p>Besides nand gate universal gate is</p>	<ol style="list-style-type: none"> 1. AND gate 2. OR gate 3. NOR gate 4. XOR gate
<p>Connection from output to one of input gate is</p>	<ol style="list-style-type: none"> 1. undefined 2. shifted 3. feedback 4. wire
<p>Most significant bit of arithmetic addition is called</p>	<ol style="list-style-type: none"> 1. overflow 2. carry 3. output 4. zero bit

	<p>Two bit addition is done by</p> <ol style="list-style-type: none"> 1. ripple carry adder 2. carry sum adder 3. full adder 4. half adder 	
	<p>Not operation is obtained by using one input</p> <ol style="list-style-type: none"> 1. AND gate 2. OR gate 3. NAND gate 4. XOR gate 	
	<p>Borrow in two bit (x,y) subtraction is 0, as long as</p> <ol style="list-style-type: none"> 1. $y > x$ 2. $x = y$ 3. $x \geq y$ 4. $y \geq x$ 	

<p>Code not included in code conversion standard is</p>	<ol style="list-style-type: none"> 1. BCD code 2. gray code 3. excess3 code 4. truth table
<p>To implement Boolean function with NAND gates we convert function to</p>	<ol style="list-style-type: none"> 1. AND logic 2. OR logic 3. NOR logic 4. NAND logic
<p>Rather than AND-OR gates combinational circuits are made by</p>	<ol style="list-style-type: none"> 1. NAND-NOR 2. NAND-OR 3. OR only 4. AND only

<p>Combinations that are not listed for input variables are</p>	<ol style="list-style-type: none"> 1. overflows 2. carry 3. dont cares 4. zero bits
<p>Multiple variable xor is defined as</p>	<ol style="list-style-type: none"> 1. inverted or function 2. prime function 3. even function 4. odd function
<p>import keyword is used to?</p>	<ol style="list-style-type: none"> 1. both built-in packages and user-defined packages into your java source file. 2. import only built-in packages into your java source file 3. import only user-defined packages into your java source file 4. None of the above

<p>What is stored in the object obj in following lines of code?</p> <pre>box obj;</pre>	<ol style="list-style-type: none"> 1. Memory address of allocated memory. 2. NULL 3. Any arbitrary pointer 4. Garbage 	
<p>When we create String with new() Operator, where is it stored?</p>	<ol style="list-style-type: none"> 1. In to the String Pool 2. It is created in Heap but not added to String Pool 3. Not stored anywhere 4. None of the above 	
<p>Which two methods you need to implement to use an Object as key in HashMap?</p>	<ol style="list-style-type: none"> 1. push() and pop() 2. get() and set() 3. equals() and hashCode() 4. put() and get() 	

<p>Which keyword is used by method to refer to the object that invoked it?</p>	<ol style="list-style-type: none"> 1. import 2. catch 3. abstract 4. this
<p>4 bit gray code can be converted into</p>	<ol style="list-style-type: none"> 1. 4bit binary 2. 3bit binary 3. 2bit binary 4. 1bit binary
<p>Which of the following is a method having same name as that of its class?</p>	<ol style="list-style-type: none"> 1. finalize 2. delete 3. class 4. constructor

<p>Which function is used to perform some action when the object is to be destroyed?</p>	<ol style="list-style-type: none"> 1. finalize() 2. delete() 3. None of the above mentioned 4. main() 	
<p>Lamp handball game uses application of</p>	<ol style="list-style-type: none"> 1. unidirectional shift register 2. bidirectional shift register 3. serial shift register 4. parallel shift register 	
<p>Parity checker is used for</p>	<ol style="list-style-type: none"> 1. detection 2. testing 3. debugging 4. error 	

<p>Which of these is used to access member of class before object of that class is created?</p>	<p>1. public 2. static 3. private 4. protected</p>	
<p>At start of lamp handball game ball (indicator lamp) is placed at</p>	<p>1. top 2. left 3. bottom 4. right</p>	
<p>Which of these cannot be declared static?</p>	<p>1. class 2. variable 3. object 4. method</p>	

<p>Rate of movement of light in lamp handball game is determined by clock's</p>	<p>1. input 2. frequency 3. voltage 4. current</p>	
<p>Which of the following is not a valid declaration of a Top level class ?</p>	<p>1. final public class Test {} 2. class \$Test{} 3. static class Test {} 4. public abstract class _Test {}</p>	
<p>After 9 counts BCD counter goes back to</p>	<p>1. 0 2. 9 3. 1 4. 10</p>	

<p>How can such a restriction be enforced ?</p> <p>A method within a class is only accessible by classes that are defined within the same package as the class of the method.</p>	<ol style="list-style-type: none"> 1. Declare the method with the keyword public 2. Declare the method with keyword protected 3. Declare the method with keyword private 4. Without any accessibility specifiers. 	
<p>Two methods are said to be overloaded if they have,</p>	<ol style="list-style-type: none"> 1. same name and same number of parameter but different return type. 2. they have same name. 3. they have different name but same number of argument. 4. have same name but different parameters. 	
<p>When mode of adder subtract or is 0 it will give</p>	<ol style="list-style-type: none"> 1. A-B 2. A+B 3. A/B 4. A*B 	

<p>What is the prototype of the default constructor for given class?</p> <pre>public class Test { }</pre>	<p>1. Test()</p> <p>2. public Test()</p> <p>3. Test(void)</p> <p>4. public Test(void)</p>	
<p>Decimal digits are displayed on</p>	<p>1. input</p> <p>2. output</p> <p>3. 7 segment</p> <p>4. flip flop</p>	
<p>What will be the output of the following program?</p> <pre>class B { static int count = 100; public void increment() { count++; } public static void main(String []args) { B b1 = new B(); b1.increment(); B b2 = new B(); System.out.println(b2.count); } }</pre>	<p>1.100</p> <p>2.101</p> <p>3.3</p> <p>4.error</p>	

Logic probe is used for	1. testing 2. debugging 3. monitoring 4. controlling	
Master slave flipflop can be constructed with	1. SR Latch 2. adder 3. JK flipflop 4. multiplier	
The mechanism that binds code and data together to keep them secure from outside world is known as	1. Abstraction 2. encapsulation 3. Inheritance 4. Polymorphism	

<p>9 in binary code is represented by</p>	<ol style="list-style-type: none"> 1. 1000 2. 1001 3. 1010 4. 101
<p>What does the file iostream contain?</p>	<ol style="list-style-type: none"> 1. Declarations of the standard input-output library functions. 2. Definitions of the standard input-output library functions. 3. Both 4. None of the Above
<p>Serial adder can be converted to serial adder subtract or using</p>	<ol style="list-style-type: none"> 1. encoder 2. demux 3. multiplier 4. mode control

	<p>1. 1</p> <p>2. 2</p> <p>3. 3</p> <p>4. 4</p>	
Each gate has a delay of	1.object	
Which of the following is considered as a blue print that defines the variables and methods common to all of its objects of a specific kind?	<p>2.class</p> <p>3.method</p> <p>4.data type</p>	
	<p>1. 1</p> <p>2. 0</p> <p>3. reset</p> <p>4. undefined</p>	
To load data to shift register its SH/LD pin should be	<p>1. Set</p> <p>2. LinkedList</p> <p>3. vector</p> <p>4. WeakHashMap</p>	
Which of the following is synchronized?		

	<p>When mode of adder subtractor is 1 it</p> <ol style="list-style-type: none"> 1. adds 2. subtracts 3. divides 4. multiply
Assume that a File is an abstract class and has toFile() method. ImageFile and BinaryFile are concrete classes of the abstract class File.	<ol style="list-style-type: none"> 1. Binary File 2. Image File 3. Both File and Binary Files 4. none
Also, assume that the method toFile() is implemented in both Binary File and Image File. Which implementation method will be called when a File references an ImageFile object in memory and the toFile method is called?	<ol style="list-style-type: none"> 1. wall 2. fence 3. ball 4. indicator
Left most position in lamp handball game is the	

	<p>Von Neumann architecture is _____.</p> <ol style="list-style-type: none"> 1. SISD 2. SIMD 3. MISD 4. MIMD 	
	<p>16x4 RAM indicates that memory location are</p> <ol style="list-style-type: none"> 1. 4 2. 8 3. 12 4. 16 	

<p>In a vectored interrupt.</p>	<ol style="list-style-type: none"> 1. the branch address is assigned to a fixed location in memory. 2. the interrupting source supplies the branch information to the processor through an interrupt vector. 3. the branch address is obtained from a register in the processor 4. None of the above
<p>When mode of adder subtractor is 0 it</p>	<ol style="list-style-type: none"> 1. adds 2. subtracts 3. divides 4. multiply

	<p>In a memory-mapped I/O system, which of the following will not be there?</p> <ol style="list-style-type: none"> 1. LDA 2. IN 3. OUT 4. ADD
LED stands for	<ol style="list-style-type: none"> 1. light emitting diode 2. light emitting device 3. light electronic diode 4. light electronic device
If memory access takes 20 ns with cache and 110 ns without it, then the ratio (cache uses a 10 ns memory) is ____.	<ol style="list-style-type: none"> 1. 93% 2. 90% 3. 88% 4. 83%

	1. 1 bit 2. 2 bits 3. 3 bits 4. 4 bits
4bit parallel adder produces output of	
8 input mux will have	1. 2 select lines 2.3 select lines 3 4 select line 5 select lines
The addressing mode used in an instruction of the form ADD X Y, is _____.	1. Absolute 2. Indirect 3. indexed 4. base addressed
_____ register keeps track of the instructions stored in program stored in memory.	1. Address Register 2. Data Register 3. Program counter 4. Accumulator

<p>Which one of the following models is not suitable for accommodating any change?</p>	<ol style="list-style-type: none"> 1. Build & Fix Model 2. Prototyping Model 3. RAD Model 4. Waterfall Model
<p>What is the meaning of the return data type void?</p>	<ol style="list-style-type: none"> 1. An empty memory space is returned so that the developers can utilize it. 2. void returns no data type. 3. void is not supported in Java 4. None of the above
<p>2x1 mux has</p>	<ol style="list-style-type: none"> 1. 1 select line 2. 2 select lines 3. 3 select lines 4. 4 select lines

	<p>1. (195 084)10</p> <p>2. (00101111010 0000 1100)2</p> <p>3. (011011011011 0000 1100)2</p> <p>4. None of these</p>
Which is not one of the types of prototype of Prototyping Model?	<p>1. Horizontal Prototype</p> <p>2. Vertical Prototype</p> <p>3. Diagonal Prototype</p> <p>4. Domain Prototype</p>

<p>The object of DataInputStream is used to</p>	<p>1. To covert binary stream into character stream 2. to covert character stream into binary stream 3. To write data onto output object 4. All of the above</p>
<p>In adder subtractor circuit when addition exceeds from 15 output carry becomes</p>	<p>1. 1 2. 0 3. x 4. undefined</p>
<p>The code snippet</p> <pre>if("Welcome".trim() == "Welcome".trim()) System.out.println("Equal"); else System.out.println("Not Equal");</pre> <p>will</p>	<p>1.compile and display “Equal” 2.compile and display “Not Equal” 3.cause a compiler error 4.compile and display NULL</p>

	<p>Assembly language _____.</p> <ol style="list-style-type: none"> 1. uses alphabetic codes in place of binary numbers used in machine language 2. is the easiest language to write programs 3. need not be translated into machine language 4. None of these
RS flipflop works on	<ol style="list-style-type: none"> 1. 2 inputs 2. 3 inputs 3. 4 inputs 4. 5 inputs

<p>What is the major drawback of using RAD Model?</p>	<ol style="list-style-type: none"> 1. Highly specialized & skilled developers/ designers are required 2. Increases re-usability of components. 3. Encourages customer/client feedback. 4. Both a & b
<p>Serial addition can be done with</p>	<ol style="list-style-type: none"> 1. shift register 2. serial load 3. load 4. ring shift register

<p>Assume that the value 3929.92 is of type ‘float’. How to assign this value after declaring the variable ‘interest’ of type float?</p>	<p>1. interest = 3929.92</p> <p>2. interest = (Float)3929.92</p> <p>3. interest = 3929.92 (float)</p> <p>4. interest = 3929.92f</p>
<p>Suppose that a bus has 16 data lines and requires 4 cycles of 250 nsecs each to transfer data. The bandwidth of this bus would be 2 Megabytes/sec. If the cycle time of the bus was reduced to 125 nsecs and the number of cycles required for transfer stayed the same what would the bandwidth of the bus?</p>	<p>1. 1 Megabyte/sec</p> <p>2. 2 Megabyte/sec</p> <p>3. 3 Megabyte/sec</p> <p>4. 4 Megabyte/sec</p>
<p>Which of the methods should be implemented if any class implements the Runnable interface?</p>	<p>1. start()</p> <p>2. run()</p> <p>3. wait()</p> <p>4. notify() and notifyAll()</p>

<p>The work associated with software engineering can be categorized into three generic phases, regardless of application area, project size, or complexity namely the _____ phase which focuses on <i>what</i>, the _____ phase which focuses on <i>how</i> and the _____ phase which focuses on <i>change</i></p> <p>1. Support, 2. Development, 3. Definition</p>	<p>1. 1, 2, 3</p> <p>2. 2, 1, 3</p> <p>3. 3, 2, 1</p> <p>4. 3, 1, 2</p>	
<p>In Reverse Polish notation, expression $A*B+C*D$ is written as</p>	<p>1. $AB*CD*+$</p> <p>2. $A*BCD*+$</p> <p>3. $AB*C*D+$</p> <p>4. $AB*+CD*$</p>	
<p>$X+y=z$ represents operation that is</p>	<p>1. AND</p> <p>2. OR</p> <p>3. NOT</p> <p>4.XOR</p>	

**After the following code fragment,
what is the value in fname?**

```
String str;  
int fname;  
str = "Foolish boy.";  
fname = str.indexOf("fool");
```

1.0

2.2

3.-1

4.4

Which two models doesn't allow defining requirements early in the cycle?

1.
Waterfall & RAD

2.
Prototyping &
Spiral

3.
Prototyping & RAD

4.
Waterfall & Spiral

To put the microprocessor in the wait state

1.
lower the HOLD
input

2.
lower the READY
input

3.
raise the HOLD
input

4.
None of these

<p>Electric digital systems use signals that have circuit elements having</p>	<ol style="list-style-type: none"> 1. One stable state 2. Two stable states 3. Three stable states 4. Four stable states 	
<p>What is the value of ‘number’ after the following code fragment execution?</p> <pre>int number = 0; int number2 = 12; while (number < number2) { number = number + 1; }</pre>	<ol style="list-style-type: none"> 1. 5 2. 12 3. 21 4. 13 	
<p>Which of the following life cycle model can be chosen if the development team has less experience on similar projects?</p>	<ol style="list-style-type: none"> 1. Spiral 2. Waterfall 3. RAD 4. Iterative Enhancement Model 	

	<p>Transference of information from one register to another is</p> <ol style="list-style-type: none"> 1. Intra-register transfer operation 2. Inter-register transfer operation 3. Out register transfer operation 4. In register transfer operation 	
	<p>Characters that can be specified in 6-bit code are</p> <ol style="list-style-type: none"> 1. 61 2. 62 3. 63 4. 64 	

<p>A company is developing an advance version of their current software available in the market, what model approach would they prefer?</p>	<p>1. RAD</p> <p>2. Iterative Enhancement</p> <p>3. Both a & b</p> <p>4. Spiral</p>	
<p>DataInputStream is an example of</p>	<p>1. Output stream</p> <p>2. I/O stream</p> <p>3. Filtered stream</p> <p>4. File stream</p>	

<p>Identify the disadvantage of Spiral Model.</p>	<ol style="list-style-type: none"> 1. Doesn't work well for smaller projects 2. High amount of risk analysis 3. Strong approval and documentation control 4. Additional Functionality can be added at a later date 	
<p>If $result = 2 + 3 * 5$, what is the value and type of 'result' variable?</p>	<ol style="list-style-type: none"> 1. 17, byte 2. 25, byte 3. 17, int 4. 25, int 	

	<p>If you were to create client/server applications, which model would you go for?</p> <ol style="list-style-type: none"> 1. WINWIN Spiral Model 2. Spiral Model 3. Concurrent Model 4. Incremental Model
What is an aggregate object?	<ol style="list-style-type: none"> 1. An object with only primitive attributes 2. An instance of a class which has only static methods 3. An instance which has other objects 4. None of the above

Purpose of process is to deliver software	<ol style="list-style-type: none">1. in time2. with acceptable quality3. that is cost efficient4. both a & b
Which of the following is not a return type?	<ol style="list-style-type: none">1. boolean2. void3. public4. Button

<p>In a microprocessor system, the RST instruction will cause an interrupt</p>	<ol style="list-style-type: none"> 1. only if an interrupt service routine is being executed 2. only if a bit in the interrupt mask is made 0 3. only if interrupts have been enabled by an EI instruction 4. None of these
<p>The longer a fault exists in software</p>	<ol style="list-style-type: none"> 1. the more tedious its removal becomes 2. the more costly it is to detect and correct 3. the less likely it is to be properly corrected 4. All of the mentioned

<p>Subtraction of two signed numbers is performed with</p>	<p>1. 1's complement 2. 2's complement 3. 9's complement 4. 10's complement</p>	
<p>When a thread terminates its processing, into what state that thread enters?</p>	<p>1. Running state 2. Waiting state 3. Beginning state 4. Dead state</p>	
<p>Arrange the following steps to form a basic/general Engineering Process Model</p> <p>1. Test, 2. Design, 3. Install, 4. Specification, 5. Manufacture, 6. Maintain</p>	<p>1. 2, 4, 5, 1, 6, 3 2. 4, 2, 5, 1, 3, 6 3. 2, 4, 5, 1, 3, 6 4. 4, 2, 5, 1, 6, 3</p>	

<p>Which of the following is not a weighted code?</p>	<ol style="list-style-type: none"> 1. Decimal Number system 2. Excess 3-code 3. Binary number System 4. None of these
<p>To execute the threads one after another</p>	<ol style="list-style-type: none"> 1. the keyword synchronize is used 2. the keyword synchronizable is used 3. the keyword synchronized is used 4. None of the above
<p>What characteristic of RAM memory makes it not suitable for permanent storage?</p>	<ol style="list-style-type: none"> 1. too slow 2. unreliable 3. it is volatile 4. too bulky

<p>Which one of the following is not a step of requirement engineering?</p>	<ol style="list-style-type: none"> 1. elicitation 2. design 3. analysis 4. documentation 	
<p>Consider the following code snippet. What will be assigned to the variable fourthChar, if the code is executed?</p> <pre>String str = new String("Java"); char fourthChar = str.charAt(4);</pre>	<ol style="list-style-type: none"> 1. 'a' 2. 'v' 3. null character 4. throws StringIndexOutOfBoundsException 	
<p>The average time required to reach a storage location in memory and obtain its contents is called the _____.</p>	<ol style="list-style-type: none"> 1. seek time 2. turn around time 3. access time 4. transfer time 	

<p>class can have many methods with the same name as long as the number of parameters or type of parameters is different. This OOP concept is known as</p>	<p>1. Method Invoking 2. Method Overloading 3. Method Overriding 4. Method Labeling</p>
<p>-9 with signed 2's complement representation is</p>	<p>1. 10001001 2. 11110110 3. 11110111 4. 11110011</p>
<p>Given the following code snippet;</p> <pre>int salaries[]; int index = 0; salaries = new int[4]; while (index < 4) { salaries[index] = 10000; index++; }</pre> <p>What is the value of salaries [3]?</p>	<p>1. 10000 2. 40000 3. 4000 4. 15000</p>

	1. Register 2. Encoder 3. Decoder 4. Flipflop
The circuit used to store one bit of data is known as_____.	1. 110 2. 0111 3. 1100 4. 1110

<p>Computers use addressing mode techniques for _____.</p>	<ol style="list-style-type: none"> 1. giving programming versatility to the user by providing facilities as pointers to memory counters for loop control 2. to reduce no. of bits in the field of instruction 3. specifying rules for modifying or interpreting address field of the instruction 4. All the above
<p>Digital no system is said to be of base or radix</p>	<ol style="list-style-type: none"> 1. 8 2. 10 3. 2 4. 16

	<p>Which of the following is not a method of the Thread class.</p> <ol style="list-style-type: none"> 1. public void exit() 2. public void run() 3. public void start() 4. public final int getPriority()
Voltage operated circuits represent	<ol style="list-style-type: none"> 1. Decimal variables 2. Hexadecimal variables 3. Binary variables 4. Octa variables
How many numeric data types are supported in Java?	<ol style="list-style-type: none"> 1. 2 2. 4 3. 8 4. 6

<p>QFD stands for</p>	<ol style="list-style-type: none"> 1. quality function design 2. quality function development 3. quality function deployment 4. none of the mentioned
<p>Using 10's complement 3250-72532 is</p>	<ol style="list-style-type: none"> 1. -69272 2. -69282 3. -69252 4. -69232
<p>A _____ is a more complete elaboration of a single subsystem or function</p>	<ol style="list-style-type: none"> 1. horizontal prototype 2. vertical prototype 3. domain prototype 4. analysis prototype

<p>X=1010100 and Y=1000011 using 2's complement X-Y is</p>	<p>1. 10111 2. 101101 3. 10011 4. 10001</p>	
<p>The class <code>java.lang.Exception</code> is</p>	<p>1. protected 2. extends Throwable 3. implements Throwable 4. serializable</p>	
<p>Translation from symbolic program into Binary is done in _____.</p>	<p>1. Two passes. 2. Three passes. 3. Four passes. 4. Five passes</p>	

	<p>1. 0001 0011 0111 0101</p> <p>2. 0111 0011 0111 0101</p> <p>3. 0001 0111 0111 0101</p> <p>4. 0001 0011 0111 0111</p>
All the wrapper classes (Integer, Boolean, Float, Short, Long, Double and Character) in java	<p>1. are private</p> <p>2. are serializable</p> <p>3. are immutable</p> <p>4. are final</p>
(1010.011) ₂ =	<p>1. (10.365)₁₀</p> <p>2. (10.375)₁₀</p> <p>3. (11.365)₁₀</p> <p>4. (11.375)₁₀</p>

	<p>8723 in BCD</p> <p>1. 1000_0111_0010_0011</p> <p>2. 1000_0001_0010_0011</p> <p>3. 1000_0101_0010_0011</p> <p>4. 1000_0111_0110_0011</p>	
Which according to you is the most important stakeholder from the following?	<p>1. Entry level personnel</p> <p>2. Middle level stakeholder</p> <p>3. Managers</p> <p>4. Users of the software</p>	
Product of 1011 and 101	<p>1. 110111</p> <p>2. 110011</p> <p>3. 111011</p> <p>4. 111100</p>	

	<p>1. Usability, Reliability, Security, Flexibility</p> <p>2. Availability, Reliability, Maintainability, Security</p> <p>3. Availability, Reliability, Security, Safety</p> <p>4. Security, Safety, Testability, Usability</p>
What are the four dimensions of Dependability	<p>1. 11100</p> <p>2. 10100</p> <p>3. 110100</p> <p>4. 100100</p>

<p>What are the types of requirement in Quality Function Deployment(QFD)</p>	<ol style="list-style-type: none"> 1. Known, Unknown, Undreamed 2. User, Developer 3. Functional, Non-Functional 4. Normal, Expected, Exciting
<p>Binary logic consists of binary values and</p>	<ol style="list-style-type: none"> 1. Arithmetic operations 2. Logical operations 3. Numeric operations 4. Addition operations
<p>How many Scenarios are there in elicitation activities?</p>	<ol style="list-style-type: none"> 1. One 2. Two 3. Three 4. Four

ASCII stands for	1. African standard code for information interchange 2. American standard code for integer interchange 3. American standard code for information interchange 4. African standard code for integer interchange	
(10110001101011.11110010) ₂ in hexadecimal is	1. 2C5B.F2 2. 2C6B.F2 3. 3D5B.F2 4. 3D6B.F2	
9's complement of 546700 is	1. 453299 2. 453399 3. 543399 4. 543299	

<p>Binary code that distinguishes ten elements must contain at least</p>	<p>1. Two Bits</p> <p>2. Three Bits</p> <p>3. Four Bits</p> <p>4. Five Bits</p>	
<p>9's complement of 012395 is</p>	<p>1. 987641</p> <p>2. 987631</p> <p>3. 987621</p> <p>4. 987601</p>	
<p>Gray code representation of 14 is</p>	<p>1. 1010</p> <p>2. 1100</p> <p>3. 1001</p> <p>4. 1110</p>	

	1. 753300	
10's complement of 246700 is	2. 753311	
	3. 753320	
	4. 754371	
X=1010100 and Y=1000011 using 1's complement Y-X is	1. -10111	
	2. -10011	
	3. -10001	
	4. -11001	
Convert (0.6875) ₁₀ to binary	1. 0.1011	
	2. 0.1011	
	3. 0.0101	
	4. 0.0111	

<p>Inline functions are invoked at the time of</p>	<p>1. Run time</p> <p>2. Compile time</p> <p>3. Depends on how it is invoked</p> <p>4. Both b and c above</p>	
<p>Which of the following operators allow to define the member functions of a class outside the class?</p>	<p>1. ?</p> <p>2. ?:</p> <p>3. ::</p> <p>4. %</p>	
<p>$e^*x = x^*e = x$ is the</p>	<p>1. commutative property</p> <p>2. inverse property</p> <p>3. associative property</p> <p>4. identity element</p>	

Minterms are also called	1. standard sum 2. standard product 3. standard division 4. standard subtraction	
Maxterms are also called	1. standard sum 2. standard product 3. standard division 4. standard subtraction	
Star topology is used in	1. LAN 2. WAN 3. MAN 4. Internetwork	

	1. parenthesis 2. AND 3. OR 4. NOT
Most preceded operator is	1. $a'b'c'$ 2. $a'+b'+c'$ 3. abc 4. $a+b+c$
$(a+b+c)' =$	1. x 2. y 3. $x-y$ 4. $x+y$
$x+x'y =$	

	<p>Primed or unprimed variable is</p> <ol style="list-style-type: none"> 1. map 2. logic gates 3. literal 4. graph 	
A binary variable can take values	<ol style="list-style-type: none"> 1. 0 only 2. 0 and -1 3. 0 and 1 4. 1 and 2 	
A noiseless 3 KHz Channel transmits bits with binary level signals. What is the maximum data rate?	<ol style="list-style-type: none"> 1. 3 Kbps 2. 6 Kbps 3. 12 Kbps 4. 24 Kbps 	

As per Boolean algebra theorem (x') ' is equal to

- | | |
|----|----|
| 1. | x' |
| 2. | x |
| 3. | 1 |
| 4. | 0 |

Carrier is

1. One or more conductors that serve as a common connection for a related group of devices
2. a continuous frequency capable of being modulated or impressed with a second signal
3. the condition when two or more sections attempt to use the same channel at the same time
4. a collection of interconnected functional units that provides a data communications service among stations attached to the network

<p>What can greatly reduce TCP/IP configuration problems?</p>	<ol style="list-style-type: none"> 1. WINS Server 2. WINS Proxy 3. DHCP Server 4. PDC 	
<p>One that shows distributive law of addition over multiplication</p>	<ol style="list-style-type: none"> 1. $x+(y.z)=(x.y)+(x.z)$ 2. $x+(y.z)=(x+y).(x+z)$ 3. $x+(y.z)=(x.y).(x+z)$ 4. $x.(y+z)=(x+y).(x+z)$ 	
<p>In CRC there is no error if the remainder at the receiver is _____.</p>	<ol style="list-style-type: none"> 1. equal to the remainder at the sender 2. zero 3. nonzero 4. the quotient at the sender 	

<p>FTP server listens to connections on port</p> <p>Ans : 21</p>	<p>1. 19 and 20</p> <p>2. 20 and 21</p> <p>3. 21 and 22</p> <p>4. 20 and 22</p>	
<p>According to Boolean algebra $x \cdot x$ is equal to</p>	<p>1. x</p> <p>2. 1</p> <p>3. 0</p> <p>4. x'</p>	
<p>One that is not postulate of Boolean algebra</p>	<p>1. commutative</p> <p>2. duality</p> <p>3. associative</p> <p>4. identity element</p>	

	<p>2^3 would have</p> <p>1. three values</p> <p>2. four values</p> <p>3. six values</p> <p>4. eight values</p>
ICMP (Internet Control Message Protocol) is	<p>1. a TCP/IP protocol used to dynamically bind a high level IP Address to a low-level physical hardware address</p> <p>2. a TCP/IP high level protocol for transferring files from one machine to another</p> <p>3. a protocol used to monitor computers</p> <p>4.a protocol that handles error and control messages</p>

<p>If you get both local and remote echoes, every character you type will appear on the screen</p>	<ol style="list-style-type: none"> 1. once 2. twice 3. three times 4. never 	
<p>An identity element w.r.t addition</p>	<ol style="list-style-type: none"> 1. $x-1$ 2. $x+1$ 3. $x-0$ 4. $x+0$ 	
<p>What part of 192.168.10.51 is the Network ID, assuming a default subnet mask?</p>	<ol style="list-style-type: none"> 1. 192 2. 192.168.10 3. 0.0.0.5 4. 51 	

<p>Exclusive-OR is an</p>	<ol style="list-style-type: none"> 1. prime function 2. undefined function 3. even function 4. odd function
<p>The slowest transmission speeds are those of</p>	<ol style="list-style-type: none"> 1. twisted-pair wire 2. coaxial cable 3. fiber-optic cable 4. Microwaves

	<p>A front-end processor is</p> <ol style="list-style-type: none"> 1. a user computer system 2. a processor in a large-scale computer that executes operating system instructions 3. a minicomputer that relieves main-frame computers at a computer centre of communications control functions 4. preliminary processor of batch jobs
In ____ mode, the authentication header is inserted immediately after the IP header.	<ol style="list-style-type: none"> 1. Tunnel 2. Transport 3. Authentication 4. Both A and B

	<p>1. 119</p> <p>2. 80</p> <p>3. 79</p> <p>4. 70</p>
What is the port number for NNTP?	<p>1. $(x \cdot y)' = x' \cdot y'$</p> <p>2. $(x + y)' = x + y'$</p> <p>3. $(x + y)' = x' \cdot y'$</p> <p>4. $(x + y)' = x'$</p>
Demorgan law over addition is	<p>1. 7 slots</p> <p>2. 5 slots</p> <p>3. 10 slots</p> <p>4. 14 slots</p>
Eight stations are competing for the use of a shared channel using the 'Adaptive tree Walk Protocol'. If the stations 7 and 8 are suddenly become ready at once, how many bit slots are needed to resolve the contention?	

<p>Usually, it takes 10-bits to represent one character. How many characters can be transmitted at a speed of 1200 BPS?</p>	<ol style="list-style-type: none"> 1. 10 2. 12 3. 120 4. 1200
<p>Any number with an exponent of zero is equal to:</p>	<ol style="list-style-type: none"> 1. zero 2. one 3. that number 4. ten
<p>To connect a computer with a device in the same room, you might be likely to use</p>	<ol style="list-style-type: none"> 1. a coaxial cable 2. a dedicated line 3. a ground station 4. All of the above

<p>A full subtractor circuit requires _____.</p>	<ol style="list-style-type: none"> 1. two inputs and two outputs 2. two inputs and three outputs 3. three inputs and one output 4. three inputs and two outputs 	
<p>How many bits internet address is assigned to each host on a TCP/IP internet which is used in all communications with the host?</p>	<ol style="list-style-type: none"> 1. 16 - bits 2. 32 - bits 3. 48 - bits 4. 64 - bits 	
<p>Give the decimal value of binary 10010.</p>	<ol style="list-style-type: none"> 1. 6_{10} 2. 9_{10} 3. 18_{10} 4. 20_{10} 	

<p>A decoder converts _____.</p>	<ol style="list-style-type: none"> 1. noncoded information into coded form 2. coded information into noncoded form 3. HIGHs to LOWs 4. LOWs to HIGHs 	
<p>In positive logic, _____.</p>	<ol style="list-style-type: none"> 1. a HIGH = 1, a LOW = 0 2. a LOW = 1, a HIGH = 0 3. only HIGHs are present 4. only LOWs are present 	
<p>What kind of logic device or circuit is used to store information?</p>	<ol style="list-style-type: none"> 1. Counter 2. Register 3. Inverter 4. Buffer 	

	<p>Convert the fractional binary number 0001.0010 to decimal.</p> <p>1. 1.40</p> <p>2. 1.125</p> <p>3. 1.20</p> <p>4. 1.80</p>
Determine the output frequency for a frequency division circuit that contains 12 flip-flops with an input clock frequency of 20.48 MHz.	<p>1. 10.24 kHz</p> <p>2. 5 kHz</p> <p>3. 30.24 kHz</p> <p>4. 15 kHz</p>
Which dynamic routing protocol uses cost as its metric?	<p>1. OSPF</p> <p>2. BGP</p> <p>3. RIP</p> <p>4. EIGRP</p>

<p>How many subnets are created from a Class C addressing space that is using a /29 subnet mask?</p>	<ol style="list-style-type: none"> 1. 16 2. 128 3. 32 4. 64
<p>What information does EIGRP share with neighboring routers?</p>	<ol style="list-style-type: none"> 1. Only dynamic routes that it is using 2. All routes that it has learned 3. All EIGRP routes that it has learned 4. Only routes that it is using
<p>Which IPv6 address is the equivalent of the IPv4 interface loopback address 127.0.0.1?</p>	<ol style="list-style-type: none"> 1. 0::/10 2. 2000::/3 3. :: 4. ::1

<p>Where does routing occur within the DoD TCP/IP reference model?</p>	<p>1. application 2. internet 3. network 4. transport</p>	
<p>Anshi's IP address is 192.168.1.21 and uses mask of 255.255.255.240. Jenny's IP is 192.168.1.14/28. Their computers are connected together using a crossover Ethernet cable. Why can't they ping each other?</p>	<p>1. The subnet masks are different 2. Because they are in different subnets. 3. Because the router does not support subnetting 4. Because it should be a straight through cable.</p>	
<p>The recurring aspects of designs are called design.....</p>	<p>1.patterns 2. documents 3.objects 4.classes</p>	

<p>Static analysers are software tools for _____</p>	<ol style="list-style-type: none"> 1. requirement analysis 2. diagram generators 3. source text processing 4. database management system
<p>What is the output of this code?</p> <pre>package pkg; class display { int x; void show() { if (x > 1) System.out.print(x + " "); } } class packages { public static void main(String args[]) { display[] arr=new display[3]; for(int i=0;i<3;i++) arr[i]=new display(); arr[0].x = 0; arr[1].x = 1; arr[2].x = 2; for (int i = 0; i < 3; ++i) arr[i].show(); } }</pre>	<p>1.0</p> <p>2.1</p> <p>3.2</p> <p>4.0 1 2</p>
<p>Thread class is available in</p>	<ol style="list-style-type: none"> 1. java.io package 2. java.lang package 3. java.awt package 4. java.util package

_____ prototype is a simulation of the user interface	<ol style="list-style-type: none">1. Horizontal2. Analysis3. Domain4. Vertical
The clock signals are used in sequential logic circuits to	<ol style="list-style-type: none">1.Tell the time of the day2.Tell how much time has elapsed since the system was turned on3.Carry parallel data signals4.

<p>Entity is a _____</p>	<ol style="list-style-type: none"> 1. Object of relation 2. Present working model <li style="color: red;">3. Thing in real world 4. Model of relation
<p>The atomic fetch-and-set x, y instruction unconditionally sets the memory location x to 1 and fetches the old value of x in y without allowing any intervening access to the memory location x. consider the following implementation of P and V functions on a binary semaphore .</p> <pre>void P (binary_semaphore *s) { unsigned y; unsigned *x = &(s->value); do { fetch-and-set x, y; } while (y);} void V (binary_semaphore *s) { S->value = 0;}</pre> <p>Which one of the following is true?</p>	<ol style="list-style-type: none"> <li style="color: red;">1. The implementation may not work if context switching is disabled in P. 2. Instead of using fetch-and-set, a pair of normal load/store can be used <li style="color: red;">3. The implementation of V is wrong 4. The code does not implement a binary semaphore

<p>Which of the following page replacement algorithms suffers from Belady's anomaly?</p>	<ol style="list-style-type: none"> 1. FIFO 2. LRU 3. Optimal Page Replacement 4. Both LRU and FIFO 	
<p>Which of the following is a single valued attribute</p>	<ol style="list-style-type: none"> 1. Register_number 2. Address 3. SUBJECT_TAKEN 4. Reference 	

	<p>1. Eliminate all hidden dependencies</p> <p>2. Eliminate the possibility of a insertion anomalies</p> <p>3. Have a composite key</p> <p>4. Have all non key fields depend on the whole primary key</p>
_____ is an industrialized approach to software development	<p>1. Software Architecture Development</p> <p>2. Component Based Development</p> <p>3. Industrial Architecture Development</p> <p>4. Rapid Architecture Development</p>

<p>A computer system supports 32-bit virtual addresses as well as 32-bit physical addresses. Since the virtual address space is of the same size as the physical address space, the operating system designers decide to get rid of the virtual memory entirely. Which one of the following is true?</p>	<ol style="list-style-type: none"> 1. Efficient implementation of multi-user support is no longer possible 2. The processor cache organization can be made more efficient now 3. Hardware support for memory management is no longer needed 4. CPU scheduling can be made more efficient now
<p>Functional Dependencies are the types of constraints that are based on _____</p>	<ol style="list-style-type: none"> 1. Key 2. Key revisited 3. Superset key 4. None of these

<p>A computer has twenty physical page frames which contain pages numbered 101 through 120. Now a program accesses the pages numbered 1, 2, ..., 100 in that order, and repeats the access sequence THREE times. Which one of the following page replacement policies experiences the same number of page faults as the optimal page replacement policy for this program?</p>	<p>1. Last-in-first-out 2. First-in-first-out 3. Least-recently-used 4. Most-recently-used</p>	
<p>A _____ in a table represents a relationship among a set of values.</p>	<p>1. Column 2. Key 3. Row 4. Entry</p>	
<p>The term _____ is used to refer to a row.</p>	<p>1. Attribute 2. Tuple 3. Field 4. Instance</p>	

<p>The tuples of the relations can be of _____ order.</p>	<ol style="list-style-type: none"> 1. Any 2. Same 3. Sorted 4. Constant
<p>A attribute in a relation is a foreign key if the _____ key from one relation is used as an attribute in that relation .</p>	<ol style="list-style-type: none"> 1. Candidate 2. Primary 3. Super 4. Sub

<p>A does not keep track of address of every element in the list.</p>	<p>1. Stack 2. String 3. Linear Array 4. Queue</p>
<p>Which if the following is/are the levels of implementation of data structure</p>	<p>1. Abstract level 2. Application level 3. Implementation level 4. All of the above</p>

<p>A binary search tree whose left subtree and right subtree differ in height by at most 1 unit is called</p>	<p>1. AVL tree</p> <p>2.Red Black tree 3. B trees</p> <p>4. Spanning trees</p>	
<p>Which of the following is not the part of ADT description?</p>	<p>1. Data</p> <p>2. Operations</p> <p>3. Both A and B</p> <p>4. None of A and B</p>	
<p>8. In precedence of set operators the expression is evaluated from</p>	<p>1. Left to left</p> <p>2. Left to right</p> <p>3. Right to left</p> <p>4. From user specification</p>	

<p>Breadth First search is used in</p>	<ol style="list-style-type: none"> 1. Binary trees 2. stacks 3. graphs 4. queues
<p>Identify the data structure which allows deletions at both ends of the list but insertion at only one end.</p>	<ol style="list-style-type: none"> 1. Input restricted dequeue 2. Output restricted dequeue 3. Priority queue 4. Stack
<p>New nodes are added to the of the queue.</p>	<ol style="list-style-type: none"> 1. Front 2. Back 3. Middle 4. Both ends

<p>In linked representation of stack the null pointer of the last node in the list signals</p>	<ol style="list-style-type: none"> 1. Beginning of the stack 2. Bottom of the stack 3. Middle of the stack 4. In between some value
<p>The term ParentTree and Child is related to</p>	<ol style="list-style-type: none"> 1. Trees 2. Stacks 3. Queues 4. Linked Lists
<p>Deletion operation is done using in a queue.</p>	<ol style="list-style-type: none"> 1. Front 2. Rear 3. Top 4. List
<p>A pointer variable which contains the location at the top element of the stack is called</p>	<ol style="list-style-type: none"> 1. Top 2. Last 3. Final 4. End

<p>Which of the following is an application of stack?</p>	<ol style="list-style-type: none"> 1. finding factorial 2. tower of Hanoi 3. infix to postfix 4. all of the above
<p>Graph G is if for any pair u, v of nodes in G there is a path from u to v or path from v to u.</p>	<ol style="list-style-type: none"> 1. Leterally connected 2. Widely Connected 3. Unliterally connected 4. Literally connected
<p>In Binary trees nodes with no successor are called</p>	<ol style="list-style-type: none"> 1. End nodes 2. Terminal nodes 3. Final nodes 4. Last nodes

<p>A connected graph T without any cycles is called</p>	<ol style="list-style-type: none"> 1. Free graph 2. No cyclic graph 3. Non cycle graph 4. Trees 	
<p>Trees are said if they are similar and have same contents at corresponding nodes.</p>	<ol style="list-style-type: none"> 1. Duplicate 2. Carbon copy 3. Replica 4. Copies 	
<p>Sequential representation of binary tree uses</p>	<ol style="list-style-type: none"> 1. Array with pointers 2. Single linear array 3. Two dimensional arrays 4. Three dimensional arrays 	

<p>In a 2-tree, nodes with 0 children are called</p>	<ol style="list-style-type: none"> 1. Exterior node 2. Outer node 3. External node 4. Inner node 	
<p>Key value pair is usually seen in</p>	<ol style="list-style-type: none"> 1. Hash table 2. Heaps 3. Splay trees 4. Skip lists 	
<p>_____ chart is a tool that depicts project as network diagram that is capable of graphically representing main events of project in both parallel and consecutive way</p>	<ol style="list-style-type: none"> 1. PERT 2. Bar 3. Network 4. Project 	
<p>Minimum number of queues required for priority queue implementation?</p>	<ol style="list-style-type: none"> 1. 5 2. 4 3. 4. 2 	

<p>Floating point representation is used to store</p>	<ol style="list-style-type: none"> 1. Boolean values 2. whole numbers 3. real integers 4. integers 	
<p>In a program using subroutine call instruction, it is necessary</p>	<ol style="list-style-type: none"> 1. initialise program counter 2. Clear the accumulator 3. Reset the microprocessor 4. Clear the instruction register 	
<p>A Stack-organised Computer uses instruction of</p>	<ol style="list-style-type: none"> 1. Indirect addressing 2. Two-addressing 3. Zero addressing 4. Index addressing 	

	<p>_____ register keeps tracks of the instructions stored in program stored in memory.</p>	<ol style="list-style-type: none"> 1. AR (Address Register) 2. XR (Index Register) 3. PC (Program Counter) 4. AC (Accumulator)
Memory unit accessed by content is called		<ol style="list-style-type: none"> 1. Read only memory 2. Programmable Memory 3. Virtual Memory 4. Associative Memory
Which of the following gives a logical structure of the database graphically ?		<ol style="list-style-type: none"> 1. Entity-relationship diagram 2. Entity diagram 3. Database diagram 4. Architectural representation

<p>Consider a directed line(→) from the relationship set advisor to both entity sets instructor and student. This indicates _____ cardinality</p>	<ol style="list-style-type: none"> 1. One to many 2. One to one 3. Many to many 4. Many to one 	
<p>The total participation by entities is represented in E-R diagram as</p>	<ol style="list-style-type: none"> 1. Dashed line 2. Double line 3. Double rectangle 4. Circle 	

<p>Key to represent relationship between tables is called</p>	<ol style="list-style-type: none"> 1. Primary key 2. Secondary Key 3. Foreign Key 4. None of the mentioned
<p>A window into a portion of a database is</p>	<ol style="list-style-type: none"> 1. Schema 2. View 3. Query 4. Data dictionary

<p>The instructions which copy information from one location to another either in the processor's internal register set or in the external main memory are called</p>	<ol style="list-style-type: none"> 1. Program control instructions. 2. Input-output instructions 3. Data transfer instructions. 4. Logical instructions.
<p>All lock information is managed by a ___, which is responsible for assigning and policing the locks used by the transactions.</p>	<ol style="list-style-type: none"> 1. Scheduler 2. DBMS 3. Lock manager 4. Locking agent
<p>Content of the program counter is added to the address part of the instruction in order to obtain the effective address is called.</p>	<ol style="list-style-type: none"> 1. relative address mode 2. implied mode. 3. index addressing mode. 4. register mode.

	<p>1. Checkpoints</p> <p>2. Indices</p> <p>3. Deadlocks</p> <p>4. Locks</p>
I n ord e r tra ver sal o f bin ary sea rch tree wil l pro duc e –	<p>1. unsorted list</p> <p>2. reverse of input</p> <p>3. sorted list</p> <p>4. none of the above</p>

<p>Which refers to a property of computer to run several operation simultaneously and possible as computers await response of each other</p>	<ol style="list-style-type: none"> 1. Concurrency 2. Deadlock 3. Backup 4. Recovery
<p>What are the ways of dealing with deadlock ?</p>	<ol style="list-style-type: none"> 1. Deadlock prevention 2. Deadlock recovery 3. Deadlock detection 4. All of the mentioned

	<p>1. Cycle</p> <p>2. Direction</p> <p>3. Bi-direction</p> <p>4. Rotation</p>	
<p>A deadlock exists in the system if and only if the wait-for graph contains a _____.</p> <p>When a subroutine is called, the address of the instruction following the CALL instructions stored in/on the</p>	<p>1. stack pointer</p> <p>2. accumulator</p> <p>3. program counter</p> <p>4. stack</p>	

	<p>1. Total</p> <p>2. Partial</p> <p>3. Time</p> <p>4. Commit</p>
<p>_____ rollback requires the system to maintain additional information about the state of all the running transactions.</p> <p>Which of the following algorithm cannot be designed without recursion –</p>	<p>1. Tower of Hanoi</p> <p>2. Fibonacci Series</p> <p>3. Tree Traversal</p> <p>4. Polynomial Evaluation</p>

<p>SNAPSHOT is used for (DBA)</p>	<ol style="list-style-type: none"> 1. Synonym 2. Tablespace 3. System server 4. Dynamic data replication 	
<p>Why we need to have secondary storage ?</p>	<ol style="list-style-type: none"> 1. Store large volume of data that exceed the capacity of main memory 2. Perform arithmetic and logical operations 3. To give power to the system too 4. To help processor in processing 	

	<p>The assignment operator is denoted by</p> <p>1. \rightarrow</p> <p>2. \leftarrow</p> <p>3. $=$</p> <p>4. $==$</p>
If a block can be placed at every location in cache, this cache is said to be	<p>1. Indirectly mapped</p> <p>2. Directly mapped</p> <p>3. Fully associative</p> <p>4. Partially associative</p>
A microprogram sequencer perform the operation ?	<p>1. Read</p> <p>2. Write</p> <p>3. Read and Write</p> <p>4. Read and Execute</p>

<p>A transaction may not always complete its execution successfully. Such a transaction is termed</p>	<ol style="list-style-type: none"> 1. Aborted 2. Terminated 3. Closed 4. <p>All of the mentioned</p>
<p>Which interrupt establishes a priority over the various sources to determine which request should be entertained first ?</p>	<ol style="list-style-type: none"> 1. Polling 2. Priority interrupt 3. Daisy chaining 4. chaining

<p>A variable P is called pointer if</p>	<ol style="list-style-type: none"> 1. P contains the address of an element in DATA. 2. P points to the address of first element in DATA 3. P can store only memory addresses 4. P contain the DATA and the address of DATA
<p>Which of the following data structure store the NON homogeneous data elements?</p>	<ol style="list-style-type: none"> 1. Arrays 2. Records 3. Pointers 4. None

<p>The situation where the lock waits only for a specified amount of time for another lock to be released is</p>	<ol style="list-style-type: none"> 1. Lock timeout 2. Wait-wound 3. Timeout 4. Wait
<p>Which type of scheduler is used in batch systems?</p>	<ol style="list-style-type: none"> 1. Medium Term Scheduler 2. Short Term Scheduler 3. Long Term Scheduler 4. None of the above

<p>..... is a system call that returns the process ID of the parent of the current process.</p>	<ol style="list-style-type: none"> 1. getpid 2. wait 3. getppid 4. None of the above
<p>What is the main function of transport layer?</p>	<ol style="list-style-type: none"> 1. process to process message delivery 2. node to node delivery 3. synchronization 4. updating and maintenance of routing tables
<p>R has n tuples and S has m tuples, then the Cartesian product of R and S will produce _____ tuples.</p>	<ol style="list-style-type: none"> 1. $n+m$ 2. $n*m$ 3. n / m 4. $n-m$

<p>Which of the following command is used to print current working directory in Unix?</p>	<ol style="list-style-type: none"> 1. mkdir 2. pwd 3. rm 4. None of the above 	
<p>_____ are responsible for producing or consuming data</p>	<ol style="list-style-type: none"> 1. objects 2. class 3. Viewpoints 4. Input device 	
<p>What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255.255.255.224 subnet mask?</p>	<ol style="list-style-type: none"> 1. 16 2. 30 3. 15 4. 14 	

What is split horizon?	<p>1. Information about a route should not be sent back in the direction from which the original update came.</p> <p>2. It splits the traffic when you have a large bus (horizon) physical network.</p> <p>3. It holds the regular updates from broadcasting to a downed link.</p> <p>4. It prevents regular update messages from reinstating a route that has gone down.</p>
A packet whose destination is outside the local TCP/IP network segment is sent to	<p>1. File server</p> <p>2. DNS server</p> <p>3. DHCP server</p> <p>4.default gateway</p>
Constraints on the services or functions offered by the system such as timing constraints, constraints on the development process, standards, etc refers to _____	<p>1. Functional requirements</p> <p>2. Non functional requirement</p> <p>3. Benchmarks</p> <p>4. ISO standards</p>

<p>1. Which of the following boolean expressions is not logically equivalent to all of the rest ?</p>	<p>1. $ab + (cd)' + cd + bd'$</p> <p>2. $a(b+c) + cd$</p> <p>3. $ab + ac + (cd)'$</p> <p>4. $bd' + c'd' + ab + cd$</p>
<p>_____ is the process of formally documenting the user and system requirements and creating a software requirements document.</p>	<p>1. Feasibility study</p> <p>2. Requirements specification</p> <p>3. Requirement verification</p> <p>4. Requirement specification</p>
<p>Which of the following logic expression is incorrect?</p>	<p>1. $1 \oplus 0 = 1$</p> <p>2. $1 \oplus 1 \oplus 1 = 1$</p> <p>3. $1 \oplus 1 = 0$</p> <p>4. $1 \oplus 1 \oplus 0 = 1$</p>

<p>Race condition is present in</p>	<ol style="list-style-type: none"> 1. synchronous logic circuit 2. asynchronous logic circuit 3. ideal logic circuit 4. both a and b 	
<p>Outputs of SR latch are</p>	<ol style="list-style-type: none"> 1. x and y 2. a and b 3. s and r 4. q and q' 	
<p>Which of the following systems software does the job of merging the records from two files into one?</p>	<ol style="list-style-type: none"> 1. Security software 2. Networking software 3. Documentation system 4. Utility program 	

<p>A _____ is a probability that some adverse circumstance will occur.</p>	<ol style="list-style-type: none"> 1. plan 2. risk 3. schedule 4. milestone 	
<p>In virtual memory systems, Dynamic address translation</p>	<ol style="list-style-type: none"> 1. is the hardware necessary to implement paging 2. stores pages at a specific location on disk 3. is part of the operating system paging algorithm 4. is useless when swapping is used 	
<p>_____ are the end-point of a process activity</p>	<ol style="list-style-type: none"> 1. Deliverables 2. Milestones 3. Outcome 4. Output 	

	<p>1. _____ is a sign of an efficient system</p> <p>2. _____ should be the tuning goal</p> <p>3. _____ is taking page frames from other working sets</p> <p>4. Dis taking larger disk spaces for pages paged out</p>
Page stealing	<p>1. Virtual computers</p> <p>2. Virtual space</p> <p>3. Virtual device</p> <p>4. None</p>
The operating system creates _____ from the physical computer	<p>1. LFU</p> <p>2. LRU</p> <p>3. FIFO</p> <p>4. OPR</p>
Which of the following page replacement algorithm use the technique of replace that page which is not used in the near future?	<p>1. LFU</p> <p>2. LRU</p> <p>3. FIFO</p> <p>4. OPR</p>

Late delivery of hardware or support software is an example for _____	1. product risk 2. people risk 3. technology risk 4. organizational risk	
poor relationships amongst team member is _____ risk	1. product 2. people 3. business 4. technology	
A _____ decides whether or not the proposed system is worthwhile	1. planning 2. requirement elicitation 3. feasibility study 4. requirement validation	
Synchronous counter is a type of	1. SSI counters 2. LSI counters 3. MSI counters 4. VLSI counters	

<p>Given the following declarations, which assignment is legal?</p> <pre>// Class declarations : interface A {} class B {} class C extends B implements A {} class D implements A {} // Declaration statements : B b = new B(); C c = new C(); D d = new D();</pre>	1. c = d; 2. d = c; 3. A a = d; 4. d = (D)c;
<p>Which is a valid declaration within an Interface?</p>	1. public static short stop = 23; 2. protected short stop = 23; 3. transient short stop = 23; 4. final void start(short stop);
<p>Which of the statement is false about an abstract class?</p>	1. An abstract class is a class that contains one or more abstract methods. 2. An abstract class cannot have normal method. 3. An abstract class cannot be instantiated. 4. An abstract class can be extended.

<p>You can import only static members of a class present in some other package using _____?</p>	<ol style="list-style-type: none"> 1. import keyword 2. import static keyword 3. package keyword 4. static import keyword 	
<p>Cache memory works on the principle of_____.</p>	<ol style="list-style-type: none"> 1. Locality of data 2. Locality of memory 3. Locality of reference 4. Locality of reference and memory 	
<p>At start of addition carry flag is</p>	<ol style="list-style-type: none"> 1. enabled 2. stored 3. cleared 4. loaded 	

	1. 1	
Number of machine cycles required for RET instruction in 8085 microprocessor is	2. 2	
	3. 3	
	4. 4	
Decimal number 5 in 2421 coding	1. 1011	
	2. 1001	
	3. 1010	
	4. 1100	
-9 with signed magnitude representation is	1. 10001001	
	2. 11110110	
	3. 11110111	
	4. 11110011	

<p>What is the difference between overloaded functions and overridden functions?</p>	<ol style="list-style-type: none"> 1. Overloading is a static or compile-time binding and Overriding is dynamic or run-time binding 2. Overloading is a dynamic or run-time binding and Overriding is static or compile-time binding 3. Redefining a function in a friend class is called function overriding while Redefining a function in a derived class is called a overloaded function. 4. Redefining a function in a friend class is called function overloading while Redefining a function in a derived class is called as overridden function.
<p>(4) 10 in binary is</p>	<ol style="list-style-type: none"> 1. 101101 2. 101011 3. 101001 4. 101101

<p>Which classes allow primitive types to be accessed as objects?</p>	<p>1. Storage 2. Virtual 3. Wrapper 4. Friend</p>	
<p>An instruction used to set the carry flag in a computer can be classified as</p>	<p>1. Data transfer 2. Program Control 3. Logical 4. Arithmetic</p>	
<p>$x+xy=x$ is known as</p>	<p>1. inverse law 2. commutative law 3. distributive law 4. absorption law</p>	

	<p>1. 134_{10}</p> <p>2. 144_{10}</p> <p>3. 110_{10}</p> <p>4. 126_{10}</p>
Give the decimal value of binary 10000110.	<p>1. complement</p> <p>2. dual complement</p> <p>3. duality</p> <p>4. reflection</p>
$(x')'$ is	<p>1. 0.625</p> <p>2. 0.50</p> <p>3. 0.55</p> <p>4. 0.10</p>
Convert the fractional binary number 0000.1010 to decimal.	

<p>Convert the fractional decimal number 6.75 to binary.</p>	<p>1. 0111.1100</p> <p>2. 0110.1010</p> <p>3. 0110.1100</p> <p>4. 0110.0110</p>	
<p>A network with Bandwidth of 10 Mbps can pass only an average of 12000 frames per minute with each frame carrying an average of 10000 bits. What is the throughput of this network</p>	<p>1. 5Mbps</p> <p>2. 10Mbps</p> <p>3. 2Mbps</p> <p>4. 100Mbps</p>	
<p>Which statement BEST describes the operation of a negative-edge-triggered D flip-flop?</p>	<p>1. The logic level at the <i>D</i> input is transferred to <i>Q</i> on NGT of <i>CLK</i>.</p> <p>2. The <i>Q</i> output is ALWAYS identical to the <i>CLK</i> input if the <i>D</i> input is HIGH.</p> <p>3. The <i>Q</i> output is ALWAYS identical to the <i>D</i> input when <i>CLK</i> = PGT.</p> <p>4. The <i>Q</i> output is ALWAYS identical to the <i>D</i> input.</p>	

	<p>1. $J = 0, K = 0$</p> <p>2. $J = 1, K = 0$</p> <p>3. $J = 0, K = 1$</p> <p>4. $J = 1, K = 1$</p>
How is a $J\text{-}K$ flip-flop made to toggle?	<p>1. Multiport Hub</p> <p>2. Multiport Switch</p>
Layer-2 Switch is also called	<p>3. Multiport Bridge</p> <p>4. Multiport NIC</p>
What is the purpose of domain name system (DNS)?	<p>1. To map private IPv4 addresses to public IPv4 addresses</p> <p>2. To map MAC addresses to hostnames</p> <p>3. To map IPv4 addresses to hostnames</p> <p>4. To map IPv4 address to NetBIOS names</p>

	<p>You have been assigned a network ID of 172.16.0.0/26. If you utilize the first network resulting from this ID, what would be the last legitimate host address in this subnet?</p>	<p>1. 172.16.0.65</p> <p>2. 172.16.0.62</p> <p>3. 172.16.0.63</p> <p>4. 172.16.0.64</p>
	<p>The size of the Multiplier Quotient in IAS machine is</p>	<p>1.20 Bits</p> <p>2.12 Bits</p> <p>3.40 Bits</p> <p>4.8 Bits</p>
	<p>Interrupts form an important part of _____ systems</p>	<p>1. Batch processing</p> <p>2. Multitasking</p> <p>3. Real-time processing</p> <p>4. Multi-user</p>

<p>Requirements which are a consequence of organisational policies and procedures are termed as _____</p>	<ol style="list-style-type: none"> 1. product requirement 2. External requirement 3. Process requirement 4. Organisational requirements 	
<p>_____ relies on constant code improvement, user involvement in the development team and pairwise programming .</p>	<ol style="list-style-type: none"> 1. Extreme programming 2. Spiral approach 3. Prototyping 4. Waterfall approach 	
<p>Interoperability requirements, legislative requirements are examples of _____</p>	<ol style="list-style-type: none"> 1. organizational requirement 2. Product requirements 3. External requirements 4. Process requirements 	
<p>Old, valuable systems must be maintained and updated are termed as _____</p>	<ol style="list-style-type: none"> 1. Normalized system 2. Concurrent systems 3. Distributed systems 4. Legacy systems 	

The interrupt-request line is a part of the	1.Data line 2.Control line 3.Address line 4.None of the above	
Addressing mode used in instruction add r1,r2,r3 is	1. Indirect 2. Base 3. Register 4. Immediate	
_____ checks the consistency of routine and procedure declarations and their use.	1. Database analysis 2. Interface analysis 3. Business layer analysis 4. Path analysis	
The philosophy behind _____ is defect avoidance rather than defect removal .	1. Requirement analysis 2. Design verification 3. Clean room software development 4. Testing	

<p>In _____ start with high-level system and integrate from the top-down replacing individual components by stubs where appropriate</p>	<ol style="list-style-type: none"> 1. top-down testing 2. bottom up testing 3. sandwich testing 4. risk oriented testing 	
<p>A _____ is an old system that still provides essential business services</p> <p>.</p>	<ol style="list-style-type: none"> 1. biometric system 2. database system 3. legacy system 4. OBS system 	
<p>_____ is the number of functions which are called by function X</p>	<ol style="list-style-type: none"> 1. Cohesion 2. Coupling 3. Fan-out 4. Fan-in 	
<p>Which of the following is not an advantage of software reuse?</p>	<ol style="list-style-type: none"> 1. lower costs 2. faster software development 3. high effectiveness 4. lower risks 	

<p>An interrupt that can be temporarily ignored is</p>	<ol style="list-style-type: none"> 1. Vectored interrupt 2. Non-maskable interrupt 3. Maskable interrupt 4. High priority interrupt 	
<p>_____ method is used to establish priority by serially connecting all devices that request an interrupt.</p>	<ol style="list-style-type: none"> 1. Vectored-interrupting 2. Daisy chain 3. Priority 4. Polling 	
<p>Consider the following sequence of micro-operations.</p> <pre> MBR ← PC MAR ← X PC ← Y Memory ← MBR </pre> <p>Which one of the following is a possible operation performed by this sequence?</p>	<ol style="list-style-type: none"> 1. Instruction fetch 2. Operand fetch 3. Conditional branch 4. Initiation of interrupt service 	

<p>A RAM chip has a capacity of 1024 words of 8 bits each ($1K \times 8$). The number of 2×4 decoders with enable line needed to construct a $16K \times 16$ RAM from $1K \times 8$ RAM is</p>	<p>1. 4 2. 5 3. 6 4. 7</p>
<p>Consider a hypothetical processor with an instruction of type LW R1, 20(R2), which during execution reads a 32-bit word from memory and stores it in a 32-bit register R1. The effective address of the memory location is obtained by the addition of a constant 20 and the contents of register R2. Which of the following best reflects the addressing mode implemented by this instruction for operand in memory.</p>	<p>1. Immediate Addressing 2. Register Addressing 3. Register Indirect Scaled Addressing 4. Base Indexed Addressing</p>
<p>How many $32K \times 1$ RAM chips are needed to provide a memory capacity of 256K-bytes?</p>	<p>1. 8 2. 32 3. 64 4. 128</p>

<p>Register renaming is done in pipelined processors</p>	<ol style="list-style-type: none"> 1. as an alternative to register allocation at compile time 2. for efficient access to function parameters and local variables 3. to handle certain kinds of hazards 4. as part of address translation 	
<p>SRD stands for:</p>	<ol style="list-style-type: none"> 1. Software requirements definition 2. Structured requirements definition 3. Software requirements diagram 4. Structured requirements diagram 	

<p>If every requirement can be checked by a cost-effective process, then the SRS is</p>	<ol style="list-style-type: none"> 1. verifiable 2. traceable 3. modifiable 4. complete 	
<p>Requirements can be refined using:</p>	<ol style="list-style-type: none"> 1. The waterfall model 2. prototyping model 3. the evolutionary model 4. the spiral model 	
<p>Structured charts are a product of</p>	<ol style="list-style-type: none"> 1. requirement gathering 2. requirement analysis 3. design 4. coding 	

<p>Which is not a step of requirement engineering?</p>	<ol style="list-style-type: none"> 1. Requirements elicitation 2. Requirements analysis 3. Requirements design 4. Requirements documentation
<p>Which of the following is not a Requirement Management workbench tool?</p>	<ol style="list-style-type: none"> 1. RTM 2. DOORS 3. Rational Suite 4. RDD 100

<p>According to a statistical report: “over 30% of all software projects are cancelled before completion and over 70% of the remainder fail to deliver expected features”. What must be the reason for such a situation?</p>	<ol style="list-style-type: none"> 1. Poor change management 2. Poor requirements management 3. Poor quality control 4. All of the mentioned
<p>Which of the following property does not correspond to a good Software Requirements Specification (SRS)?</p>	<ol style="list-style-type: none"> 1. Verifiable 2. Complete 3. Ambiguous 4. Traceable

The SRS is said to be *consistent* if and only if:

1. its structure and style are such that any changes to the requirements can be made easily while retaining the style and structure
2. every requirement stated therein is one that the software shall meet
3. every requirement stated therein is verifiable
4. no subset of individual requirements described in it conflict with each other

<p>Consider the following Statement: “The output of a program shall be given within 10secs of event X 10% of the time”. What characteristic of SRS is being depicted here?</p>	<ol style="list-style-type: none"> 1. Consistent 2. Verifiable 3. Non-verifiable 4. Correct
<p>Which of the following pattern is the basis of interaction management in many web-based systems?</p>	<ol style="list-style-type: none"> 1. architecture 2. repository pattern 3. model-view-controller 4. different operating system
<p>The context diagram is also known as: _____</p>	<ol style="list-style-type: none"> 1. Level-0 DFD 2. Level-1 DFD 3. Level-2 DFD 4. Level-3 DFD

<p>ER model shows the _____</p>	<ol style="list-style-type: none"> 1. Static view 2. Functional view 3. Dynamic view 4. All the above 	
<p>Which of the property of software modularity is incorrect with respect to benefits software modularity?</p>	<ol style="list-style-type: none"> 1. Modules are robust 2. Module can use other modules 3. Modules Can be separately compiled and stored in a library. 4. Modules are mostly dependent 	

	<p><u>Coupling</u> is a measure of the degree of interdependence between modules</p>	<ol style="list-style-type: none"> 1. Cohesion 2. Coupling 3. Corrosion 4. None of the mentioned
Which of the following is not a use of a CASE tool?		<ol style="list-style-type: none"> 1. Support structured analysis and design (SA/SD) 2. Maintains the data dictionary 3. Checks whether DFDs are balanced or not 4. It complies with the available system

	<p>In DFDs, user interactions with the system is denoted by:</p> <ol style="list-style-type: none"> 1. Circle 2. Arrow 3. Rectangle 4. Triangle
Which of the following is not a user interface design process?	<ol style="list-style-type: none"> 1. User, task, and environment analysis and modeling 2. Interface design 3. Knowledgeable, frequent users 4. Interface validation

<p>What incorporates data, architectural, interface, and procedural representations of the software?</p>	<ol style="list-style-type: none"> 1. design model 2. user's model 3. mental image 4. system image
<p>A message is much more general than a _____.</p>	<ol style="list-style-type: none"> 1. function call 2. object 3. class 4. state
<p>Which register can interact with the secondary storage</p>	<ol style="list-style-type: none"> 1. PC 2. MAR 3. MDR 4. IR

	<p>A 4-way set-associative cache memory unit with a capacity of 16 KB is built using a block size of 8 words. The word length is 32 bits. The size of the physical address space is 4 GB. The number of bits for the TAG field is _____</p>	<p>1. 5 2. 15 3. 20 4. 25</p>	
	Where does the swap space reside?	<p>1.RAM 2.Disk 3.ROM 4.On-chip cache</p>	
	Which of the following DMA transfer modes and interrupt handling mechanisms will enable the highest I/O band-width?	<p>1.Transparent DMA and Polling interrupts 2.Cycle-stealing and Vectored interrupts 3.Block transfer and Vectored interrupts 4.Block transfer and Polling interrupts</p>	
	During the execution of a program which gets initialized first?	<p>1. IR 2. MAR 3. PC 4. MDR</p>	

<p>During transfer of data between the processor and memory we use _____</p>	<p>1. Cache 2. TLB 3. Buffers 4. Registers</p>	
<p>Physical memory is divided into sets of finite size called as _____.</p>	<p>1. Frames 2. Pages 3. Blocks 4. Vectors</p>	
<p>The DMA controller has _____ registers</p>	<p>1. 2. 3. 4. 1</p>	

<p>The technique where the controller is given complete access to main memory is _____.</p>	<ol style="list-style-type: none"> 1. Cycle stealing 2. Memory stealing 3. Memory Con 4. Burst mode
<p>The DMA transfer is initiated by _____.</p>	<ol style="list-style-type: none"> 1. Processor 2. The process being executed 3. I/O devices 4. OS
<p>The techniques which move the program blocks to or from the physical memory is called as _____.</p>	<ol style="list-style-type: none"> 1. Paging 2. Virtual memory organisation 3. Overlays 4. Framing

<p>The binary address issued to data or instructions are called as _____.</p>	<ol style="list-style-type: none"> 1. Physical address 2. Location 3. Relocatable address 4. Logical address 	
<p>The virtual memory basically stores the next segment of data to be executed on the _____.</p>	<ol style="list-style-type: none"> 1. Secondary storage 2. Disks 3. RAM 4. ROM 	

<p>The two phases of executing an instruction are,</p>	<ol style="list-style-type: none"> 1. Instruction decoding and storage 2. Instruction fetch and instruction execution 3. Instruction execution and storage 4. Instruction fetch and Instruction processing 	
<p>The Instruction fetch phase ends with,</p>	<ol style="list-style-type: none"> 1. Placing the data from the address in MAR into MDR 2. Placing the address of the data into MAR 3. Completing the execution of the data and placing its storage address into MAR 4. Decoding the data in MDR and placing it in IR 	

<p>When using Branching, the usual sequencing of the PC is altered. A new instruction is loaded which is called as _____</p>	<ol style="list-style-type: none"> 1. Branch target 2. Loop target 3. Forward target 4. Jump instruction
<p>The condition flag Z is set to 1 to indicate,</p>	<ol style="list-style-type: none"> 1. The operation has resulted in an error 2. The operation requires an interrupt call 3. The result is zero 4. There is no empty register available

<p>Utilization of _____ fibre in clothing has added to the fast depleting of forests.</p>	<ol style="list-style-type: none"> 1. Cotton 2. Wool 3. Silk 4. rayon 	
<p>Which among them is not a good weave absorbent towel?</p>	<ol style="list-style-type: none"> 1. Honeycomb 2. Herringbone 3. Huckaback 4. Terry 	
<p>The fabric produced by the bonding and interlocking fibres are called as _____</p>	<ol style="list-style-type: none"> 1. Felting 2. Weaving 3. Netting 4. Knitting 	

	<p>_____ process improves the yarn strength, evenness and decreases the imperfections due to removal of short fibres and making the fibres more parallel.</p>	<ol style="list-style-type: none"> 1. Carding 2. Combing 3. Drawing 4. Drafting
	<p>In the delivery roller nip point, fibres are getting twisted together and the yarn is formed.</p>	<ol style="list-style-type: none"> 1. Twisting 2. Parallelisation 3. Spinning triangle 4. Spinning bar
	<p>The optimum conditions for bleaching cotton with hydrogen peroxide are</p>	<ol style="list-style-type: none"> 1. pH 7, 60°C 2. pH 7, boil 3. pH 10, 60°C 4. pH 10, boil

<p>For pigment printing, which following type of thickener system is preferably used</p>	<ol style="list-style-type: none"> 1. Oil-in-water 2. Water-in-oil 3. Sodium alginate 4. Guar gum
<p>Uniformity ratio is the ratio of:</p>	<ol style="list-style-type: none"> 1. 2.5% span length and 50% span length 2. 50% span length and 2.5% span length 3. Mean length and upper half mean length 4. Upper half mean length and mean length

	<p>The count of yarn is 20 Ne and its equivalent count in tex system will be _____.</p>	<ol style="list-style-type: none"> 1. 31 tex 2. 32 tex 3. 29.5 tex 4. 30.7 tex 	
	<p>_____ fabrics have more number of binding points.</p>	<ol style="list-style-type: none"> 1. 6 X 6 matt weave 2. 2 X 4 warp rib 3. 1 X 1 plain weave 4. 4 X 2 weft rib 	

<p>In a sizing machine the number of lease rods is given by _____.</p>	<ol style="list-style-type: none"> 1. Equal to number of warperse beams 2. number of warperse beams – 1 3. Number of warperse beams – 2 4. not depends on warperse beams
<p>_____ refers to the total number of loops in a measured area of fabric.</p>	<ol style="list-style-type: none"> 1. Stitch density 2. Stitch length 3. Areal density 4. Course length

<p>_____ fabric produced from plating terry cam.</p>	<ol style="list-style-type: none"> 1. Polar fleece fabric 2. Velour fabric 3. Elastic terry fabric 4. Double face terry fabric 	
<p>Identify the needle position during loop formation, the latch is closed by the old loop and the new yarn is held by the latch head.</p>	<ol style="list-style-type: none"> 1. Rest position 2. Cast-off position 3. Tucking-in position 4. Knock-over position 	
<p>_____ is the feel, drape and degree of stiffness and softness of the fabric, it also creates a visual effect upon the wearer.</p>	<ol style="list-style-type: none"> 1. Texture 2. Surface effect 3. Hairiness 4. Hang 	

	<p>_____ refers unity of design in a garment</p> <p>1. Harmony 2. Line 3. Shape 4. Form</p>
_____ is an excellent example for sustainable fibre.	<p>1. Ceramic 2. Polyester 3. Wool 4. Lyocell</p>
The crop cultivated without pesticides and chemicals, but using synthetic fertilizers are said to be _____ one.	<p>1. Eco-friendly 2. Organic 3. In-organic 4. Sustainable</p>

<p>Violet (purple) is made up of the combination of _____.</p>	<ol style="list-style-type: none"> 1. Red and Blue 2. Red and Green 3. Red and Yellow 4. Red and Orange
<p>One of following is the most important point to be considered for drawing female figures compare to male.</p>	<ol style="list-style-type: none"> 1. Shoulder and hip should be narrower 2. Rib cage and hip shoulder should be narrower 3. Waist and hip shoulder should be narrower 4. Neck and shoulder should be narrower

<p>_____ is an effective and decorative way of distributing fullness over a given area</p>	<ol style="list-style-type: none"> 1. Gathers 2. Flares 3. Godets 4. Pleats 	
<p>In a men head count, a _____ head end under the armpit usually includes the shoulder and the neck.</p>	<ol style="list-style-type: none"> 1. 1st 2. 2nd 3. 3rd 4. 4th 	
<p>Which Indian dress symbolises the synthesis of Hindu-Muslim dress form?</p>	<ol style="list-style-type: none"> 1. Brahmika sari 2. Chapkan 3. Nehru jacket 4. Gandhi's cap 	

<p>Which of the following was not a change brought about in women's dress as a result of the World Wars?</p>	<ol style="list-style-type: none"> 1. Skirts and hair became shorter 2. Women stopped wearing jewellery 3. Bright colours came into vogue 4. Clothes became plainer and simpler
<p>_____ creating a pattern by pinning fabric to a dressmaker's dummy and manipulating it until the look is achieved.</p>	<ol style="list-style-type: none"> 1. Flat patterning 2. Draping 3. Pinning 4. Dart manipulation

<p>_____ is a guide containing steps to make a garment</p>	<ol style="list-style-type: none"> 1. Thimble 2. Needle threader 3. Sewing gauge 4. Pattern 	
<p>Maximum how many thread will be using in Over Lock machine.</p>	<ol style="list-style-type: none"> 1. 3nos 2. 4nos 3. 5nos 4. 6nos 	
<p>_____ is the application of computer technology to the development of a garment to the point of production.</p>	<ol style="list-style-type: none"> 1. SAM 2. CAD 3. CIM 4. CIF 	

	<p>_____ are made of durable materials are permanently sewn into garments for production information</p>	<ol style="list-style-type: none"> 1. Labels 2. Tags 3. Stringers 4. Care tags
Expand PBS:		<ol style="list-style-type: none"> 1. Progressive bundle system 2. Production bundle sets 3. Promoting business sales 4. Product buying status
A _____ is a stock of fabric plies that have been prepared for cutting		<ol style="list-style-type: none"> 1. Lay 2. Marker 3. Fabric 4. Bundle

	<p>_____ is a diagram of a precise arrangement of pattern pieces for a specific style and the sizes to be cut from a single spread.</p>	<p>1. Plotter 2. Marker 3. Design 4. Grading</p>	
	<p>_____ is the angle at which the cutting device contacts the spread.</p>	<p>1. 1800 2. 900 3. Cutting pitch 4. Longitudinal</p>	
	<p>_____ also known as dressmaker's dummies, are padded so that material may be pinned to them:</p>	<p>1. Pinning mannequin 2. Mannequin 3. Dress form 4. Character form</p>	

<p>Two thread chain stitch refer _____ classes.</p>	<ol style="list-style-type: none"> 1. 300 2. 400 3. 301 4. 401
<p>_____ machines allow manipulation of fabric on both sides of the needle for topstitching and lapped seaming</p>	<ol style="list-style-type: none"> 1. Cylinder 2. Flatbed 3. Post 4. Raised bed
<p>_____ may result from friction among materials and spreading equipment</p>	<ol style="list-style-type: none"> 1. Rly alignment 2. Static Electricity 3. Tension 4. Shrink

	<p>1. 2T,3T,4T</p> <p>2. 4 to 7</p> <p>3. 3,6and 9 months</p> <p>4. 4X to 6X</p>
<p>_____ is a method repairing the garments where yarns are worked into the weave</p>	<p>1. Threading</p> <p>2. Piecing</p> <p>3. Mending</p> <p>4. Darning</p>
<p>_____ seams are those in which all seam allowance are contained within the finished seam</p>	<p>1. Mock seam</p> <p>2. Self-enclosed seam</p> <p>3. Lap seam</p> <p>4. Bound Seam</p>

Lead-time means	1. Total time taken to Produce Sample 2. Time taken to Process the Garment 3. Time from conforming to shipping the order 4. Stitching Time alone
Major challenges in material management is	1. consistent flow of materials for production 2. campus planning 3. cost of raw material 4. marketing cost

	<p>1. Marketing Research</p> <p>2. Production planning</p> <p>3. Process planning</p> <p>4. Purchase planning</p>	
"Taking the product to the customer"	<p>1. Push strategy</p> <p>2. Pull strategy</p> <p>3. Link strategy</p> <p>4. Final strategy</p>	

<p>PDM stands for _____</p>	<ol style="list-style-type: none"> 1. Product development management 2. Product design management 3. Product data Management 4. Product decoding management
<p>The business of buying fashion merchandise from a variety of resources and reselling it to ultimate consumers _____ .</p>	<ol style="list-style-type: none"> 1. Wholesalers 2. Fashion retailing 3. Marketing 4. Merchandising

	<p>A merchandise _____ is a collection of various styles, quantities and prices related merchandise, usually grouped under one classification within a department.</p>	<p>1. Parts 2. Assortment 3. Segmentation 4. Market</p>	
	<p>_____ is where profit is expressed as a percentage of the sale price.</p>	<p>1. Break-down 2. Break-up 3. Markdown 4. Markup</p>	
	<p>_____ occurs when pricing is used as the basis to make consumers “feel more favourable” about a product</p>	<p>1. Value based pricing 2. Discount pricing 3. Membership pricing 4. Psychological pricing</p>	

<p>_____ is the assortment of fashion products that a company offers for sale at any point in time.</p>	<ol style="list-style-type: none"> 1. Fashion 2. Collection 3. Product range 4. Gevels 	
<p>_____ retailing offers merchandises to consumers in a catalog as directional format</p>	<ol style="list-style-type: none"> 1. Mail order 2. E- Commerce 3. E-retailing 4. Chain store 	
<p>The _____ refers to the rise, wide popularity or acceptance by masses of people, and then the decline in the acceptance of style</p>	<ol style="list-style-type: none"> 1. Fashion cycle 2. Promotion 3. Design for caste 4. Research 	

	<p>_____ date is the merchandiser's deadline for having all prototypes and pricing for a new product line completed.</p>	<p>1. Line preview</p> <p>2. Deadline</p> <p>3. Line presentation</p> <p>4. Line releases</p>
	<p>_____ is work aids used in automatic pocket sewing</p>	<p>1. Binders</p> <p>2. Folders</p> <p>3. Jigs</p> <p>4. Hemmers</p>
	<p>_____ statistically calculated number of sample items to inspect and the number of defects allowed.</p>	<p>1. Sampling Plan</p> <p>2. Scheduling plan</p> <p>3. Cutting plan</p> <p>4. Inspection plan</p>

<p>Fabric defects are assigned point values based on the _____ in the fabric.</p>	<ol style="list-style-type: none"> 1. scope of defect 2. length of defect 3. width of the defect 4. depth of defect 	
<p>_____ series programme provides standards for data documentation and audits as part of a quality management system.</p>	<ol style="list-style-type: none"> 1. TQM 2. QMS 3. ISO 4. AQL 	
<p>_____ standards are designed to help organize QA/QC activities.</p>	<ol style="list-style-type: none"> 1. ISO 14000 2. ISO 6000 3. ISO 8583 4. ISO 9000 	

<p>Label of international association for research and testing in the field of textile ecology is given by _____ eco label.</p>	<ol style="list-style-type: none"> 1. ECO-TEX 2. ECO Steam 3. ECOS 4. OEKO-TEX 	
<p>_____ is a difference between actual and garment measurement at any given point</p>	<ol style="list-style-type: none"> 1. Set 2. Ease 3. Seam 4. Allowance 	
<p>ISO recommended international testing condition is:</p>	<ol style="list-style-type: none"> 1. 20°C & 65% RH 2. 30°C & 65% RH 3. 20°C & 75% RH 4. 30°C & 75% RH 	

<p>The fibre that will float on water.</p>	<ol style="list-style-type: none"> 1. Nylon 2. Polyester 3. Acrylic 4. Polypropylene 	
<p>"Kaizen" is a Japanese term meaning</p>	<ol style="list-style-type: none"> 1. Fool proof mechanism 2. Just-in-time (JIT) 3. Setting standards 4. Continuous improvement 	

<p>Pareto charts are used to _____.</p>	<ol style="list-style-type: none"> 1. Identify inspection points in a process 2. Outline production schedules 3. Organize errors, problems or defects 4. Show material flow
<p>Kalamkari is the most ancient industry in _____.</p>	<ol style="list-style-type: none"> 1. Andhra Pradesh 2. Karnataka 3. Madhya Pradesh 4. Tamil Nadu
<p>“One-click-try” concept is applicable for _____</p>	<ol style="list-style-type: none"> 1. Just in Time 2. RFID 3. Texture Mapping 4. Virtual fitting

<p>This machine sews a seam, cuts both pieces of fabric about 1/4" from the seam, and overcast stitches all in a single pass.</p>	<ol style="list-style-type: none"> 1. Blind stitch machine 2. Walking foot machine 3. Zig zag machine 4. Serger
<p>Hacking is the term given to _____ operation</p>	<ol style="list-style-type: none"> 1. Carding 2. Scutching 3. Combing 4. pulling
<p>_____ is the natural polymer that makes up the living cells of all vegetation.</p>	<ol style="list-style-type: none"> 1. Enzymes 2. Keratin 3. Cellulose 4. Lumen

<p>_____ special types of forms for data collection.</p>	<ol style="list-style-type: none"> 1. Spec sheet 2. Check sheet 3. Work sheet 4. Make sheet 	
<p>Program always deals with:</p>	<ol style="list-style-type: none"> 1.logical address 2. physical address 3.absolute address 4. relative address 	
<p>Memory management technique in which system stores and retrieves data from secondary storage for use in main memory is called:</p>	<ol style="list-style-type: none"> 1.fragmentation 2.paging 3.mapping 4.Starvation 	
<p>The page table contains:</p>	<ol style="list-style-type: none"> 1.base address of each page in physical memory 2. page size 3. page offset 4.PTBR 	

A page fault occurs ?	1. when the page is not in the memory 2. when the page is in the memory 3. when the process enters the blocked state 4. when the process is in the ready state
..... is a way of processing data serially.	1. spooling 2. Paging 3. caching 4. segmentation
Which of the following is an example of Real Time Operating Systems? Process control	1. Lynx OS 2. Mac OS 3. UNIX 4. windows

<p>..... is a technique used to speed up communication with slow devices.</p>	<ol style="list-style-type: none"> 1. Fragmentation 2. Caching 3. Segmentation 4. paging 	
<p>..... is the smallest unit for processing that consists of a program counter, a stack & a set of registers.</p>	<ol style="list-style-type: none"> 1. Compiler 2. Thread 3. Heap 4. Stack 	
<p>Which is not a function of an OS?</p>	<ol style="list-style-type: none"> 1. process Management 2. I/O Management 3. Memory Management 4. Networking 	

<p>The total number of processes completed per unit time is termed as</p>	<ol style="list-style-type: none"> 1. throughput 2. response time 3. waiting time 4. Turn around time 	
<p>For operation of multiplication hardware needs minimum ALU of</p>	<ol style="list-style-type: none"> 1. 16 2. 32 3. 64 4. 128 	
<p>Sometimes the overhead of keeping track of a hole might be :</p>	<ol style="list-style-type: none"> 1. larger than the hole itself 2. larger than the memory 3. very small 4. small or big depends on os 	

<p>Which of these is an example of a virtual resource?</p>	<ol style="list-style-type: none"> 1. Virtual machine 2. Print server 3. Virtual memory 4. All of these 	
<p>Which of the following is a solution to fragmentation problem?</p>	<ol style="list-style-type: none"> 1. Thread 2. Kernel 3. Paging 4. Multi-programming 	
<p>The size of the Program Counter in IAS machine is</p>	<ol style="list-style-type: none"> 1. 12 2. 20 3. 40 4. 8 	
<p>The decoded instruction is stored in</p>	<ol style="list-style-type: none"> 1. Instruction Register 2. Program Counter 3. Register 4. Memory Data Register 	

	<p>In associative mapping during LRU, the counter of the new block is set to '0' and all the others are incremented by one, when _____ occurs.</p>	<p>1. Miss</p> <p>2. Hit</p> <p>3. Delay</p> <p>4. Delayed Hit</p>	
	<p>Negative transition in flip-flops are referred to as</p>	<p>1. clock</p> <p>2. negative edge</p> <p>3. positive edge</p> <p>4. positive edge and negative edge</p>	
	<p>In the _____ normal form, a composite attribute is converted to individual attributes.</p>	<p>1. First</p> <p>2. Second</p> <p>3. Third</p> <p>4. Fourth</p>	

<p>The idea of cache memory is based</p>	<ol style="list-style-type: none"> 1. on the property of locality of reference 2. on the heuristic 90-10 rule 3. on the fact that references generally tend to cluster 4. based on main memory concept
<p>The address of a page table in memory is pointed by:</p>	<ol style="list-style-type: none"> 1. stack pointer 2. page table base register 3. page register 4. program counter
<p>A collection of data designed to be used by different people is called a/an</p>	<ol style="list-style-type: none"> 1. Organization 2. Database 3. Relationship 4. Schema

Stack is used for	1. CPU Resource Allocation 2. Breadth First Traversal 3. Recursion 4. Depth First Traversal
Which forms simplifies and ensures that there is minimal data aggregates and repetitive groups:	1. 1NF 2. 2NF 3. 3NF 4. 4NF

<p>Which of the following is an atomic sequence of database actions?</p>	<ol style="list-style-type: none"> 1. Transaction 2. Concurrency 3. Relations 4. Reliability 	
<p>In linked lists there are no NULL links in:</p>	<ol style="list-style-type: none"> 1. Singly linked list 2. Doubly linked list 3. Circular linked list 4. linear linked list 	
<p>Nouns in the textual description are considered to be _____.</p>	<ol style="list-style-type: none"> 1. Methods 2. Class 3. File 4. Node 	

<p>A linked list in which last node contain the link of the first node is called</p>	<ol style="list-style-type: none"> 1. Singly linked list 2. Doubly linked list 3. Circular linked list 4. Array
<p>Which of the following traversal techniques lists the nodes of a binary search tree in ascending order?</p>	<ol style="list-style-type: none"> 1. Post-order 2. In-order 3. Pre-order 4. Pre-Post order
<p>Binary ripple counter is made up of</p>	<ol style="list-style-type: none"> 1. T flipflop 2. JK flipflop 3. RS flipflop 4. T and JK flip flop

<p>An adaptive sorting algorithm –</p>	<ol style="list-style-type: none"> 1. adapts to new computers 2. takes advantage of already sorted elements 3. takes input which is already sorted 4. Take input which is unsorted
<p>Which of the following is not the required condition for binary search algorithm?</p>	<ol style="list-style-type: none"> 1. The list must be sorted 2. There should be the direct access to the middle element in any sub list 3. There must be mechanism to delete and/or insert elements in list 4.list is unsorted

<p>Which one of the following scheduler controls the degree of multiprogramming?</p>	<ol style="list-style-type: none"> 1. Short Term Scheduler 2. Long Term Scheduler 3. Medium Term Scheduler 4. <p>Average Term Scheduler</p>	
<p>..... commands are automatically loaded into main memory when the booting process gets completed.</p>	<ol style="list-style-type: none"> 1. External 2. Internal 3. Both Internal & external 4. Not internal & not external 	
<p>An adaptive sorting algorithm –</p>	<ol style="list-style-type: none"> 1. adapts to new computers 2. takes advantage of already sorted elements. 3. takes input which is already sorted. 4. none of the these 	

<p>Star Topology is Based On a Central Device that can be _____ ?</p>	<p>1. Hub 2. Switch 3. Router 4. Both Hub and Switch</p>
<p>The complexity of the average case of an algorithm is</p>	<p>1. Much more complicated to analyze than that of worst case 2. Much more simpler to analyze than that of worst case 3. Sometimes more complicated and some other times simpler than that of worst case 4. None of these</p>

Which of the following technique is used for fragment?

1. a technique used in best-effort delivery systems to avoid endlessly looping packets
2. a technique used by protocols in which a lower level protocol accepts a message from a higher level protocol and places it in the data portion of the low level frame
3. one of the pieces that results when an IP gateway divides an IP datagram into smaller pieces for transmission across a network that cannot handle the original datagram size
4. All of these

<p>To represent hierarchical relationship between elements, which data structure is suitable?</p>	<ol style="list-style-type: none"> 1. Deque 2. Priority Queue 3. Tree 4. All of these 	
<p>Which of the following is true?</p>	<ol style="list-style-type: none"> 1. All objects of a class share all data members of class 2. Objects of a class do not share non-static members. Every object has its own copy. 3. Objects of a class do not share codes of non-static methods, they have their own copy 4. None of these 	

Predict the output of following program.

```
#include
using namespace std;
class A
{
protected:
    int x;
public:
    A() {x = 0;}
    friend void show();
};

class B: public A
{
public:
    B() : y(0) {}
private:
    int y;
};

void show()
{
    A a;
    B b;
    cout << "The default value of A::x = "
<< a.x << " ";
    cout << "The default value of B::y = "
<< b.y;
}
```

Compiler Error in show() because y is private in class b

1. Compiler Error in show() because x is protected in class A

2.

Runtime polymorphism can be achieved by

1. accessing virtual function through the pointer of base class.

2. by accessing virtual function through the object

3. Accessing physical function.

4. none of these

<p>Which of the following statements is/are not true for SQL profiler?</p>	<ol style="list-style-type: none"> 1. Enables you to monitor events 2. Check if rows are being inserted properly 3. Check the performance of a stored procedure 4. All of these
<p>Stack works on the principles:</p>	<ol style="list-style-type: none"> 1. FCFS 2. LIFO 3. FCFS and LIFO 4. SJF

<p>Example of primitive recursion is</p>	<p>1. Tower of Hanoi 2. Ackermann's function 3. Tower of Hanoi and Ackermann's function both 4. None</p>	
<p>Which design identifies the software as a system with many components interacting with each other?</p>	<p>1. Architectural design 2. High-level design 3. Detailed design 4. low-level design</p>	
<p>When the memory allocated to a process is slightly larger than the process, then :</p>	<p>1. external fragmentation occurs 2. internal fragmentation occurs 3. both External and Internal Fragmentation occurs 4. neither External nor Internal Fragmentation occurs</p>	

The memory address of fifth element of an array can be calculated by the formula

1.
 $\text{LOC}(\text{Array}[5]) = \text{Base}(\text{Array}) + w(5 - \text{lower bound})$, where w is the number of words per memory cell for the array

2.
 $\text{LOC}(\text{Array}[5]) = \text{Base}(\text{Array}[5]) + (5 - \text{lower bound})$, where w is the number of words per memory cell for the array

3.
 $\text{LOC}(\text{Array}[5]) = \text{Base}(\text{Array}[4]) + (5 - \text{Upper bound})$, where w is the number of words per memory cell for the array

4.
None of these

<p>What is the first address of a block of classless addresses if one of the addresses is 12.2.2.76/27?</p>	<ol style="list-style-type: none"> 1. 12.2.2.0 2. 12.2.2.32 3. 12.2.2.64 4. none of these
<p>Which of the following data structures are indexed structures?</p>	<ol style="list-style-type: none"> 1. linear arrays 2. linked lists 3. Array 4. Stack
<p>Which of the following is not the required condition for binary search algorithm?</p>	<ol style="list-style-type: none"> 1. The list must be sorted 2. there should be the direct access to the middle element in any sublist 3. There must be mechanism to delete and/or insert elements in list
	<ol style="list-style-type: none"> 4. none of these

<p>A remote batch-processing operation in which data is solely input to a central computer would require a:</p>	<ol style="list-style-type: none"> 1. Telegraph line 2. Simplex lines 3. Mixedband channel 4. duplex lines 	
<p>OR gates are converted to NAND gates using</p>	<ol style="list-style-type: none"> 1. invert OR 2. AND invert 3. NAND invert 4. EX-OR 	
<p>AND gates are converted to NAND gates using</p>	<ol style="list-style-type: none"> 1. invert OR 2. AND invert 3. NAND invert 4. NOR 	

<p>Consider the virtual page reference string 1, 2, 3, 2, 4, 1, 3, 2, 4, 1</p> <p>On a demand paged virtual memory system running on a computer system that main memory size of 3 pages frames which are initially empty. Let LRU, FIFO and OPTIMAL denote the number of page faults under the corresponding page replacements policy. Then</p> <p>(A) OPTIMAL < LRU < FIFO (B) OPTIMAL < FIFO < LRU (C) OPTIMAL = LRU (D) OPTIMAL = FIFO</p>	<p>1. OPTIMAL < LRU < FIFO</p> <p>2. OPTIMAL < FIFO < LRU</p> <p>3. OPTIMAL = FIFO</p> <p>4. OPTIMAL <= FIFO</p>
<p>In mealy model outputs are functions of</p>	<p>1. present state</p> <p>2. input state</p> <p>3. next state</p> <p>4. present and input state</p>
<p>In moore model outputs are functions of</p>	<p>1. present state</p> <p>2. input state</p> <p>3. next state</p> <p>4. Present state and inputstate</p>

<p>What DFD notation is represented by the Rectangle?</p>	<ol style="list-style-type: none"> 1. Transform 2. Data Store 3. Function 4. Data read 	
<p>At Conceptual level Class diagrams should include:</p>	<ol style="list-style-type: none"> 1. operations only 2. attributes only 3.constants 4. Variables 	
<p>Two dimensional arrays are also called</p>	<ol style="list-style-type: none"> 1. tables arrays 2. matrix arrays 3. tables and matrix arrays 4.attributes 	

<p>Which is the first program run on a computer when the computer boots up?</p>	<p>1. System software 2. Operating system 3. System operations 4. system hardware</p>	
<p>In an absolute loading scheme, which loader function(s) is (are) accomplished by programmer</p>	<p>1. Allocation 2. Linking 3. Allocation and Linking 4. Reallocation</p>	
<p>The high paging activity is called.....</p>	<p>1. Fragmentation 2. Segmentation 3. Thrashing 4. memory allocation</p>	

<p>In IPv4 header, an HLEN value of decimal 10 means _____.</p>	<ol style="list-style-type: none"> 1. A) there are 10 bytes of options 2. there are 40 bytes of options 3. there are 10 bytes in the header 4. there are 40 bytes in the header
<p>Which of the following is an example of Batch Processing Operating Systems?</p>	<ol style="list-style-type: none"> 1. Lynx OS 2. Mac OS 3. UNIX 4. windows
<p>Consider money is transferred from (1) account-A to account-B and (2) account-B to account-A. Which of the following form a transaction ?</p>	<ol style="list-style-type: none"> 1. Only 1 2. Only 2 3. Both 1 and 2 individually 4. only 1 or only 2

<p>UDP packets are encapsulated in _____.</p>	<ol style="list-style-type: none"> 1. an Ethernet frame 2. an TCP segment 3. an IP datagram 4. IP header 	
<p>Which of the following holds the data currently being worked on?</p>	<ol style="list-style-type: none"> 1. Stack pointer 2. Program Counter 3. Accumulator 4. Instruction Pointer 	
<p>The Open Shortest Path First (OSPF) protocol is an intradomain routing protocol based on _____ routing.</p>	<ol style="list-style-type: none"> 1. distance vector 2. link state 3. path vector 4. link path 	

<p>Which of the following condition leads to deadlock?</p>	<ol style="list-style-type: none"> 1. Hold and Wait 2. Preemption 3. Rollback 4. Hold 	
<p>Items in a priority queue are entered in a _____ order</p>	<ol style="list-style-type: none"> 1. Random 2. Order of priority 3. as and when they come 4. same priority 	
<p>The condition Top= -1 indicates that</p>	<ol style="list-style-type: none"> 1. Stack is empty 2. Stack is full 3. Stack has only one element 4. stack has two elements 	

<p>A system has a resource ‘Z’ with 20 instances; each process needs 5 instances to complete its execution. What is the minimum number of processes in the system that may cause a deadlock?</p>	<p>1. 6 2. 10 3. 5 4. 4</p>
<p>Consider n processes sharing the CPU in a round robin fashion. Assume that the context switch takes s seconds. What must be the quantum q such that the overhead of context switching is minimized and at the same time each process is getting guaranteed execution on the CPU at least once in every t seconds?</p>	<p>1. $q = (t - ns) / (n-1)$ 2. $q = (t - ns) / (n+1)$ 3. $q = (t - ns) / (n*1)$ 4. $q = (t - ns) / n$</p>
<p>Four jobs to be executed on a single processor system arrive at time 0 in order A, B, C, and D. Their burst time requirements are 4,1,8,1 time units respectively. Find the completion time of A under round robin scheduling with a time slice of one-time unit.</p>	<p>1. 9 2. 7 3. 10 4. 8</p>
<p>Paging suffers from</p>	<p>1. Internal fragmentation 2. segmentation fault 3. External fragmentation 4. fatal error</p>
<p>Suppose a disk has 201 cylinders, numbered from 0 to 200. At some time the disk arm is at cylinder 100, and there is a queue of disk access requests for cylinders 30, 85, 90, 100, 105, 110, 135 and 145. If Shortest-Seek Time First (SSTF) is being used for scheduling the disk access, the request for cylinder 90 is serviced after servicing _____ number of requests.</p>	<p>1. 4 2. 3 3. 2 4. 5</p>
<p>The port that is used for the generation of handshake lines in mode 1 or mode 2 is</p>	<p>1. a) port A 2. b) port B 3. c) port C Lower 4. d) port C Upper</p>
<p>Error correction and error detection happens in _____ layer.</p>	<p>1. Application layer 2. Session layer 3. Physical layer 4. Data link layer</p>

The average time required to reach a storage location in memory and obtain its contents is called the	<p>1. access time</p> <p>2. transfer time 3. seek time 4. turnaround time</p>
Output-----?	<p>1. Error output 2. 4 3. 8 4. 44</p> <p>Incomplete question in VTOP</p>
a are the tags used for ?	<p>1. Audio-voiced text 2. Adding links to your page 3. Adding header to your page 4. Aligning text</p>
Creating a B Tree index for your database has to specify in _____.	<p>1. TCL 2. SDL 3. VDL 4. DDL</p>
_____ is the first schema to be designed when you are developing a DBMS	<p>1.conceptual 2. hierarchical 3. physical 4. relational</p>
To change the access path programs are categorized under _____ data independence.	<p>1. Physical 2. external 3. logical 4. internal</p>
A circuit produces 1's complement of the input word, one application is binary subtraction. It is called	<p>1. BCD Converter 2. Multiplexer 3. Register 4. Logic gate</p>
Passing the request from one schema to another in DBMS architecture is called as _____	<p>1. network 2. Relational 3. Communication 4. Mapping</p>
The number of clock pulses needed to shift one byte of data from input to the output of a 4-bit shift register is	<p>1. 10 2. 12 3. 16 4. 32</p>
A full binary tree with n leaves contains	<p>1. $\log_2 n$ nodes. 2. $2n$ nodes 3. n nodes. 4. $2n - 1$ nodes.</p>

UDP has a smaller overhead than TCP, especially when the total size of the messages is	1. sequenced 2. segmented 3. small 4. large
_____ gives the concepts to describe the structure of the database.	1. Data Model 2. Relational model 3. Domain model 4. Schema model
_____ is the description of the database	1. snapshot 2. schema evolution 3. schema construct 4. schema
A binary tree in which all the leaves are on the same level is called as:	1. Complete binary tree 2. Binary search 3. Full binary tree 4. Strictly binary tree (Perfect Binary Tree)
For 3 page frames, the following is the reference string: 7 0 1 2 0 3 0 4 2 3 0 3 2 1 2 0 1 7 0 1. How many page faults does the FIFO page replacement algorithm produce?	1. 11 2. 12 3. 15 4. 10
For an undirected graph with n vertices and e edges, the sum of the degree of each vertex is equal to	1. $2n$ 2. $\text{pow}(e,2)/2$ 3. $(2n-1)/2$ 4. $2e$
The complexity of multiplying two matrices of order $m \times n$ and $n \times p$ is	1. mp 2. np 3. mnp 4. mn
The major difference between a moore and mealy machine is that	1. output of former depends only on the present input 2. output of the former not depends only on the present state 3. output of the former depends on the present state and present input 4. output of the former depends only on the present state
-----is a description of the database	1. Schema Construct 2. Metadata 3. Relation State 4. Schema

-----is data about data	1. Relation State 2. Metadata 3. Schema Construct 4. Schema
1024 bit is equal to how many byte	1. 64 Byte 2. 32 Byte 3. 1 Byte 4. 128 Byte
6. Consider the below code fragment: <pre>if(fork k() == 0) { a= a+5; printf(?%d, %d \n?, a, &a); } else { a= a - 5; printf(?%d %d \n?, 0, &a); }</pre> <p>Let u, v be the values printed by parent process and x, y be the values printed by child process. Which one of the following is true?</p>	1. $u + 10 = x$ and $v \neq y$ 2. $u + 10 = x$ and $v = y$ 3. $u = x + 10$ and $v = y$ 4. $u = x + 10$ and $v \neq y$
_____ is used to define a special CSS style for a group of HTML elements	1. class attribute 2. name attribute 3. group attribute 4. id attribute
_____ operate at the network layer, connecting two or more network segments that use the same or different data link layer protocols, but the same network layer protocol.	1. Routers 2. Firewall 3. Bridges 4. Gateway
_____ OS pays more attention on the meeting of the time limits.	1. Online 2. Real time 3. Distributed 4. Network
_____ selects the jobs from the pool of jobs and loads into the ready queue.	1. Program counter 2. Medium term scheduler 3. Short term scheduler 4. Long term scheduler
_____ register keeps track of the instructions stored in program stored in memory.	1. PC (Program Counter) 2. AR (Address Register) 3. XR (Index Register) 4. AC (Accumulator)

<p>_____ constraint is specified between two relations and is used to maintain the consistency among tuples of the two relations</p>	<ol style="list-style-type: none"> 1. primary 2. referential 3. secondary 4. check
<p>A 2 MHz signal is applied to the input of a J-K flip-flop which is operating in the 'toggle' mode. The frequency of the signal at the output will be</p>	<ol style="list-style-type: none"> 1. 6 MHz 2. 8 MHz 3. 1 MHz 4. 2 MHz
<p>A 20-bit address bus allows access to a memory of capacity</p>	1. 1 MB 2. 2 MB 3. 4 MB 4. 8 MB
<p>A 4-way set-associative cache memory unit with a capacity of 16 KB is built using a block size of 8 words. The word length is 32 bits. The size of the physical address space is 4 GB. The number of bits for the TAG field is</p>	<ol style="list-style-type: none"> 1. 22 2. 19 3. 20 4. 21
<p>A binary tree T has 20 leaves. The number of nodes in T having two children is</p>	1. 99 2. 7 3. 19 4. 34
<p>A Boolean function may be transformed into</p>	<ol style="list-style-type: none"> 1. logical graph 2. map 3. logical diagram 4. matrix
<p>A circuit that converts n inputs to 2^n outputs is called</p>	<ol style="list-style-type: none"> 1. Decoder 2. Comparator 3. Encoder 4. Carry Look Ahead
<p>A computer has a 256 KByte, 4-way set associative, write back data cache with block size of 32 Bytes. The processor sends 32 bit addresses to the cache controller. Each cache tag directory entry contains, in addition to address tag, 2 valid bits, 1 modified bit and 1 replacement bit. The size of the cache tag directory is</p>	<ol style="list-style-type: none"> 1. 40 2. 160 3. 16 4. 32
<p>A computer system implements 8 kilobyte pages and a +32-bit physical address space. Each page table entry contains a valid bit, a dirty bit, three permission</p>	1. 36 2. 35 3. 33 4. 34

<p>bits, and the translation. If the maximum size of the page table of a process is 24 megabytes, the length of the virtual address supported by the system is _____ bits.</p>	
<p>A critical region is</p>	<ol style="list-style-type: none"> 1. The most important part of the program 2. The part of the kernel that interfaces directly to the device controllers 3. The part of a program in which a bug would cause the program to exit <p>4. The part of a program in which shared data is accessed</p>
<p>A data dictionary does not provide information about</p>	<ol style="list-style-type: none"> 1. Where data is located <p>2. The size of the storage disk</p> <ol style="list-style-type: none"> 3. Who owns or is responsible for the data 4. How the data is used
<p>A file system with 300 GByte disk uses a file descriptor with 8 direct block addresses, 1 indirect block address and 1 doubly indirect block address. The size of each disk block is 128 Bytes and the size of each disk block address is 8 Bytes. The maximum possible file size in this file system in KBytes is</p>	<ol style="list-style-type: none"> 1. 35 2. 3 3. 280 4. Dependent on Disk
<p>A graphical HTML browser resident at a network client machine Q accesses a static HTML webpage from a HTTP server S. The static HTML page has exactly one static embedded image which is also at S. Assuming no caching, which one of the following is correct about the HTML webpage loading (including the embedded image)?</p>	<ol style="list-style-type: none"> 1. A single HTTP request from Q to S is sufficient, and a single TCP connection between Q and S is necessary for this <p>2. Q needs to send at least 2 HTTP requests to S, but a single TCP connection to server S is sufficient</p> <ol style="list-style-type: none"> 3. Q needs to send at least 2 HTTP requests to S, each necessarily in a separate TCP connection to server S 4. A single HTTP request from Q to S is sufficient, and this is possible without any TCP connection between Q and S
<p>A group of bits that tell the computer to perform a specific operation is known as</p>	<ol style="list-style-type: none"> 1. Instruction code 2. A collection of wires 3. A collection of shared communication wires 4. A software to transport data
<p>A heap memory area is used to store the</p>	<ol style="list-style-type: none"> 1. Memory of objects 2. Local variables declared in the method 3. Global variables 4. Static variables

A page fault occurs	1. when the process enters the blocked state 2. when the page is in the memory 3. when the page is not in the memory 4. when the process is in the ready state
A priority queue is implemented as a Max-Heap. Initially, it has 5 elements. The level-order traversal of the heap is: 10, 8, 5, 3, 2. Two new elements 1 and 7 are inserted into the heap in that order. The level-order traversal of the heap after the insertion of the elements is:	1. 10, 8, 7, 1, 2, 3, 5 2. 10, 8, 7, 2, 3, 1, 5 3. 10, 8, 7, 5, 3, 2, 1 4. 10, 8, 7, 3, 2, 1, 5
A process executes the code <code>fork(); fork(); fork();</code> The total number of child processes created is	1. 4 2. 7 3. 8 4. 3
A processor can support a maximum memory of 4 GB, where the memory is word-addressable (a word consists of two bytes). The size of the address bus of the processor is at least _____ bits	1. 33 2. 31 3. 32 4. 30
A Program Counter contains a number 825 and address part of the instruction contains the number 24. The effective address in the relative address mode, when an instruction is read from the memory is	1. 850 2. 849 3. 802 4. 801
A race condition occurs when	1. two concurrent activities interact to cause a processing error and two users of the DBMS are interacting with different files at the same time 2. two concurrent activities interact to cause a processing error 3. None of these 4. two users of the DBMS are interacting with different files at the same time
A RAM chip has a capacity of 1024 words of 8 bits each (1K*8). The number of 2*4	1. 7 2. 6 3. 4 4. 5

decoders with enable line needed to construct a 16K*6 RAM from 1K*8 RAM is	
A receiving host has failed to receive all of the segments that it should acknowledge. What can the host do to improve the reliability of this communication session?	<ol style="list-style-type: none"> Send a different source port number. Decrease the window size. Restart the virtual circuit. Decrease the sequence number.
A relation R(a,b,c,d,e,f) with the FDs { a -> b,c; c -> d, e, f } satisfies ----- normal form at the most where ?a? is the primary key.	<ol style="list-style-type: none"> 1NF 3NF BCNF 2NF
A relation schema R is said to be in 4NF if for every MVD $x \rightarrow\!\!>y$ that holds over R	<ol style="list-style-type: none"> x is subset of y is true x is subset of y is true (OR) $x \cup y$ is R is true $x \cup y$ is R is true x is subset of y is true (AND) $x \cup y$ is R is true
A ring counter is same as	<ol style="list-style-type: none"> shift register Ripple carry Counter Parallel-counter up-down counter
A sequential circuit outputs a ONE when an even number (> 0) of one's are input; otherwise the output is ZERO. The minimum number of states required is	<ol style="list-style-type: none"> 1. 2 0 and 1 1 0
A solution to the Dining Philosophers problem which avoids Deadlock can be:	<ol style="list-style-type: none"> Philosophers can select any fork randomly Ensure that all the Philosophers except one pick up the left fork while that particular philosopher pick up right fork before left fork Deadlock cannot be avoided Ensure that all the Philosopher's pick up the left fork before the right fork
A system has 'n' processes and each process need 2 instances of a resource. There are $n+1$ instances of resource provided. This could:	<ol style="list-style-type: none"> lead to deadlock lead to starvation & the deadlock leads to inconsistency leads to system crash <p>(Never leads to deadlock) none of the above</p>
A system uses 3 page frames for storing process pages in main memory. It uses the Least Recently Used (LRU) page replacement policy. Assume that all the page frames	<ol style="list-style-type: none"> 7 4 3. 6 2

<p>are initially empty. What is the total number of page faults that will occur while processing the page reference string given below? 4, 7, 6, 1, 7, 6, 1, 2, 7, 2</p>	
<p>Adjacent squares in a K-Map represents a</p>	<p>1. Circle 2. Variable 3. Literal 4. Minterm</p>
<p>After fetching the instruction from the memory, the binary code of the instruction goes to</p>	<p>1. Accumulator 2. Program counter 3. Instruction pointer 4. Instruction registers</p>
<p>AJAX made popular by</p>	<p>1. Microsoft 2. IBM 3. Sun Micro system 4. Google</p>
<p>All the functions of the ports of 8255 are achieved by programming the bits of an internal register called</p>	<p>1. data bus control 2. status word control 3. control word register 4. read logic control</p>
<p>An index is clustered, if</p>	<p>1. The data records of the file are organized in the same order as the data entries of the index 2. The data records of the file are organized not in the same order as the data entries of the index 3. It is on a set of fields that form a candidate key 4. It is on a set of fields that include the primary key</p>
<p>An Internet Service Provider (ISP) has the following chunk of CIDR-based IP addresses available with it: 245.248.128.0/20. The ISP wants to give half of this chunk of addresses to Organization A, and a quarter to Organization B, while retaining the remaining with itself. Which of the following is a valid allocation of address to A and B?</p>	<p>1. 245.248.128.0/21 and 245.248.128.0/22 2. 245.248.132.0/22 and 245.248.132.0/21 3. 245.248.136.0/24 and 245.248.132.0/21 4. 245.248.136.0/21 and 245.248.128.0/22</p>
<p>An optimal scheduling algorithm in terms of minimizing the average waiting time of a given set of processes is _____.</p>	<p>1. None of these 2. Round robin scheduling algorithm 3. FCFS scheduling algorithm 4. Shortest job - first scheduling algorithm</p>

<p>Assume a relation ACCOUNT (acno, balance, type, branch, last_accessed) with 1 million records. If a SQL query "SELECT balance FROM account WHERE balance>5000" would produce 800000 records, which one of the following is the optimized version of relational algebra expressions that is equivalent to the given SQL query?</p>	<p>1.$\sigma_{balance > 5000}(\pi_{balance}(account))$ 2.$\pi_{balance}(\sigma_{balance > 5000}(account))$ 3.$\pi_{balance > 5000}(\sigma_{balance}(account))$ 4.$\sigma_{balance > 5000}(\pi_{balance}(account))$</p>
<p>Assume a relation R with keys X, Y and Z, where X, Y, and Z are sets of one or more attributes. Also assume that Y is a subset or equal to X and Z is a subset of X and Y. Which of the following is true for this case?</p>	<p>1. X and Y are candidate keys of R 2. Y and Z are the candidate keys of R 3. X is the only candidate key of R 4. Z is the only candidate key of R</p>
<p>Assume a table Employee (Eno, Ename, Dept, Salary, Phone) with 10000 records.</p> <p>Also assume that Employee has a non-clustering index on Salary, clustering indexes on Dept and Phone. If there is a SQL query "SELECT Eno FROM Employee WHERE Salary/12 = 10000", which of the following will happen during query execution?</p>	<p>1. Query will use index of Dept 2. Query will use index of Phone 3. Query will use index of Salary 4. Query will not use index</p>
<p>Assume that a mergesort algorithm in the worst case takes 30 second for an input of size 64. Which of the following most closely approximates the maximum input size of a problem that can be solved in 6 minutes?</p>	<p>1. 43 2. 43 3. 256 4. 512</p>
<p>ATM uses a ____ packet size</p>	<p>1. 48 byte 2. Fixed 53 byte 3. Randomized 4. Taken care by TCP fragmentation</p>
<p>Buffering is useful because</p>	<p>1. It allows devices and the CPU to operate asynchronously 2. It makes it seem like there's more memory in the computer 3. It allows all device drivers to use the same code 4. It reduces the number of memory copies required</p>

Changing the conceptual schema without having to change the external schema is called as _____	1.physical data independence 2. logical data independence 3. data model 4. relational model
Choose the correct HTML tag to make a text italic	1<ii> 2.<italics> 3. <italic> 4. <i>
Class D in network is used for	1. Internet multicast communication 2. Organizations 3. Very large network 4. Reserved for future requirements
Commit, Savepoint, Rollback are ____	1. DDL 2. DCL 3. DML 4. TCL
Congestion control and quality of service is qualities of the	1. Frame Relay 2. ATM 3. DH 4. SONET
Consider a 4-way set associative cache (initially empty) with total 16 cache blocks. The main memory consists of 256 blocks and the request for memory blocks is in the following order: 0, 255, 1, 4, 3, 8, 133, 159, 216, 129, 63, 8, 48, 32, 73, 92, 155 Which one of the following memory block will NOT be in cache if LRU replacement policy is used?	1. 8 2. 216 3. 3 4. 129
Consider a disk queue with requests for I/O to blocks on cylinders 47, 38, 121, 191, 87, 11, 92, 10. The C-LOOK scheduling algorithm is used. The head is initially at cylinder number 63, moving towards larger cylinder numbers on its servicing pass. The cylinders are numbered from 0 to 199. The total head movement (in number of cylinders) incurred while servicing these requests is	1. 324 2. 4819 3. 165 (if not counting the reversing movement otherwise 346) 4. 431
Consider a dynamic queue with two pointers: front and rear. What is the time needed to insert an element in a queue of length of n?	1. O(n log2n). 2. O(1). 3. O(log2n) 4. O(n).
Consider a join (relation algebra operation) between relations r(R) and s(S) using the nested loop method. There are	1. Join selection factor between r(R) and s(S) is more than 0.5. 2. Relation r(R) is in the outer loop.

3 buffers each of size equal to disk block size, out of which one buffer is reserved for intermediate results. Assuming size(r(R))	3. Relation s(S) is in the outer loop. 4. Join selection factor between r(R) and s(S) is less than 0.5.
Consider a relation R (A, B). If A $\not\rightarrow$ B is a trivial functional dependency and A is the super key for R, then what is the maximum normal form R can be in?	1. 3NF 2. 2NF 3. BCNF 4. 1NF
Consider a relation R (A, B, C, D, E) with set of functional dependencies F = {A $\not\rightarrow$ BC, CD $\not\rightarrow$ E, B $\not\rightarrow$ D, E $\not\rightarrow$ A}. Which of the following is one of the candidate keys of R?	1. ABC 2. B 3. ED 4. E
Consider a relational table with the schema R (A, B, C). Assume that the cardinality of attribute A is 10, B is 20, and C is 5. What is the maximum number of records R can have without duplicate?	1. 1000 2. 100 3. 200 4. 35
Consider a system with 'M' CPU processors and 'N' processes then how many processes can be present in ready, running and blocked state at maximum	1. M, N, M 2. N, N+M, M 3. N, M, M 4. N, M, N
Consider an arbitrary set of CPU-bound processes with unequal CPU burst lengths submitted at the same time to a computer system. Which one of the following process scheduling algorithms would minimize the average waiting time in the ready queue?	1. Uniform Random 2. Shortest remaining time first 3. Priority based 4. Round Robin
Consider six memory partitions of sizes 200 KB, 400 KB, 600 KB, 500 KB, 300 KB and 250KB, where KB refers to kilobyte. These partitions need to be allotted to four processes of sizes 357 KB, 210KB, 468 KB and 491 KB in that order. If the best fit algorithm is used, which partitions are NOT allotted to any process?	1. 200KB and 300 KB 2. 300KB and 400 KB 3. 250KB and 300 KB 4. 200KB and 250 KB
Consider the C function given below. int f(int j)	1. The function prints the string something for all values of j.

<pre>{ static int i = 50; int k; if (i == j) { printf(?something?); k = f(i); return 0; } else return 0; }</pre> <p>Which one of the following is TRUE?</p>	<p>2. The function returns 0 for all values of j. 3. The function will exhaust the runtime stack or run into an infinite loop when j = 50. 4. The function returns 0 when j = 50.</p>
<p>Consider the following C function.</p> <pre>int fun (int n) { int x =1, k; if (n ==1) return x; for (k=1; k < n; ++k) x = x + fun (k)* fun (n - k); return x; }</pre> <p>The return value of fun (5) is _____</p>	<p>1. 51 2. 52 3. 53 4. 42</p>
<p>Consider the following C code segment:</p> <pre>int a, b, c = 0; void prtFun(void); main() { static int a = 1; /* Line 1 */ prtFun(); a += 1; prtFun() printf(?\n %d %d ?, a, b); } void prtFun(void) { static int a=2; /* Line 2 */ int b=1; a+=++b; printf(?\n %d %d ?, a, b); }</pre> <p>What output will be generated by the given code segment if: Line 1 is replaced by auto int a = 1; Line 2 is replaced by register int a = 2;</p>	<p>1. 42 61 61 2. 31 41 42 3. 42 42 20 4. 42 62 20</p>
<p>Consider the following C program segment.</p> <pre>#include intmain()</pre>	<p>1. 1034 2. 23324 3. 1204 4. 12</p>

<pre>{char sl [7]={"1234"};p; p=sl+2; *p='0'; printf ("%os",sl) {</pre> <p>What will be printed by the program?</p>	
<p>Consider the following C program.</p> <pre>#include int f1 (void); int f2 void ; int x 10; int main () { int x=1; x+=f1()+f2()+f3()+f2() ; printf("%d", x); return 0; } int f1(){int x=25; x++; return x;} int f2(){static int x =50; x++;return x;} int f3(){x*=10; return x;}; The output of the program is_____.</pre>	<p>1. 434 2. 432 3. 43 4. 230</p>
<p>Consider the following four schedules due to three transactions (indicated by the subscript) using read and write on a data item x, denoted by r(x) and w(x) respectively. Which one of them is conflict serializable?</p>	<p>1. r3(x);r2(x);r1(x);w2(x);w1(x) 2. r1(x); r2(x); w1(x); r3(x); w2(x) 3. r2(x);w2(x);r3(x);r1(x);w1(x) 4. r2(x);r1(x);w2(x);r3(x);w1(x)</p>
<p>Consider the following function written the C programming language.</p> <pre>void foo (char * a) { if (* a & & * a !=' '){ //Question incomplete here “ foo(a+1)” should be here putchar (*a); } }}</pre> <p>The output of the above function on input ?ABCD EFGH? is</p>	<p>1. HGFE DCBA 2. ABCD 3. DCBA 4. ABCD EFGH</p>

<p>Consider the following program in C language:</p> <pre>#include main() { int i; int *pi = &i; scanf("%d", pi); printf("%d\n", i+5); }</pre> <p>Which one of the following statements is TRUE?</p>	<ol style="list-style-type: none"> 1. On execution, the value printed is 5 more than the integer value entered 2. Execution results in a run-time error. 3. On execution, the value printed is 5 more than the address of variable i 4. Compilation fails.
<p>Consider the following program:</p> <pre>int f(int *p, int n) { if (n <= 1) return 0; else return max (f (p+1, n-1), p[0]-p[1]); } int main() { int a[] = {3,5,2,6,4}; printf("%d", f(a,5)); }</pre> <p>The value printed by this program is</p>	<ol style="list-style-type: none"> 1. 1 2. 4 3. 2 4. 3
<p>Consider the following recursive C function.</p> <pre>Void get (int n) {if (n<1) return; get (n-1) get (n-3) ; printf ("%d",n); If get(6) function is being called in main () then how many times will the get() function be invoked before returning to the main () ?</pre>	<ol style="list-style-type: none"> 1. 15 2. 25 3. 43 4. 24
<p>Consider the following relation Cinema (theater, address, capacity)</p> <p>Which of the following options will be needed at the end of the SQL query</p> <pre>SELECT P1. address FROM Cinema P1 Such that it always finds the addresses of theaters with maximum capacity?</pre>	<ol style="list-style-type: none"> 1. WHERE P1. Capacity>= All (select max(P2. Capacity) from Cinema P2) 2. WHERE P1. Capacity>= Any (select max (P2. Capacity) from Cinema P2) 3. WHERE P1. Capacity>= All (select P2. Capacity from Cinema P2) 4. WHERE P1. Capacity>= Any (select P2. Capacity from Cinema P2)

<p>Consider the following transaction involving two bank account x and y.</p> <pre>read (x) ; x := x + 50; write (x) ; read (y); y := y + 50 ; write (y)</pre> <p>The constraint that the sum of the accounts x and y should remain constant is that of</p>	<p>1. Consistency 2. Isolation 3. Durability 4. Atomicity</p>
<p>Consider the function func shown below:</p> <pre>int func(int num) { int count = 0; while (num) { count++; num>>= 1; } return (count); }</pre> <p>The value returned by func(435) is</p>	<p>1. 9 2. 0 3. 7 4. 8</p>
<p>Consider the tree arcs of a BFS traversal from a source node W in an unweighted, connected, undirected graph. The tree T formed by the tree arcs is a data structure for computing</p>	<p>1. The shortest paths from W to only those nodes that are leaves of T. 2. The shortest path between every pair of vertices. 3. The shortest path from W to every vertex in the graph. 4. The longest path in the graph.</p>
<p>Consider the virtual page reference string 1,2,3,2,4,1,3,2,4,1 on a demand paged virtual memory system running on a computer system that has main memory size of 3 page frames which are initially empty. Let LRU, FIFO and OPTIMAL denote the number of page faults under the corresponding page replacement policy. Then</p>	<p>1. OPTIMAL < FIFO < LRU 2. OPTIMAL = FIFO 3. OPTIMAL < LRU < FIFO 4. OPTIMAL = LRU</p>
<p>Decimal digit in BCD can be represented by</p>	<p>1. 2 input lines 2. 1 input line 3. 4 input lines 4. 3 input lines</p>
<p>Decoder is a</p>	<p>1. complex circuit 2. combinational circuit 3. sequential circuit 4. gate</p>
<p>Design procedure of combinational circuit involves</p>	<p>1. 8 steps 2. 5 steps 3. 4 steps 4. 6 steps</p>
<p>DMA is useful for the operations</p>	<p>1. large and fast data transfers between memory and io devices</p>

	2. small data transfers between memory and cache 3. slow and small data trasfers between memory and io devices 4. fast and slow data transfers between memory and io devices
Eight minterms will be used for	1. three variables 2. six variables 3. five variables 4. four variables
Find the output of the following program? <pre>#include using namespace std; void myFunction(int& x, int* y, int* z) { static int temp=1; temp += (temp + temp) - 1; x += *(y+++ *z)+ temp - ++temp; *y=x; x=temp; *z= x; cout<<x<<*y<<*z<<temp; } int main() { int i = 0; int j[] = {0, 1, 2, 3, 4, 5, 6, 7, 8, 9}; i=i++ - ++i; myFunction(i, j, &i); return 0; }</x<<*y<<*z<<temp;</pre>	1. 3233 2. 3133 3. 3332 4. 3232
Find the output of the following program? <pre>#include using namespace std; typedef int * IntPtr; int main() { IntPtr A, B, C; int D,E; A = new int(3); B = new int(6); C = new int(9); D = 10;</pre>	1. 71020106 2. 10720107 3. 72010107 4. 62010206

<pre> E = 20; *A = *B; B = &E; D = (*B)++ ; *C= (*A)++ * (*B)--; E= *C++ - *B--; cout<<*A<<*B<<*C<<d<<e; return 0; }</d<<e; </pre>	
Flip-flops can be constructed with two	1. NOT gates 2. NAND gates 3. OR gates 4. EXNOR gates
<p>For a C program accessing X[i][j][k], the following intermediate code is generated by a compiler. Assume that the size of an integer is 32 bits and the size of a character is 8 bits.</p> <pre> t0 = i * 1024 t1 = j * 32 t2 = k * 4 t3 = t1 + t0 t4 = t3 + t2 t5 = X[t4] </pre> <p>Which one of the following statements about the source code for the C program is CORRECT?</p>	<p>1. X is declared as ?int X[32][32][8]?</p> <p>2. X is declared as ?int X[4][1024][32]?. 3. X is declared as ?char X[4][32][8]?. 4. X is declared as ?char X[32][16][2]?.</p>
<p>For non-negative functions, f(n) and g(n), f(n) is theta of g(n) if and only if</p>	<p>1. f(n) = omega(g(n)) and f(n) = O(g(n))</p> <p>2. f(n) = O(g(n)) and f(n) = o((g(n)) 3. f(n) = o(g(n)) and f(n) = omega(g(n)) 4. f(n) = O(g(n)) and f(n) = little_omega(g(n))</p>
<p>For the array (77 ,62,114,80,9,30,99), write the order of the elements after two passes using the Radix sort</p>	<p>1. 114 30 62 77 9 99 2. 9 30 62 77 80 99 114 3. 9 114 30 62 77 80 99 4. 80 30 62 114 77 9 99</p>
<p>For the IEEE 802.11 MAC protocol for wireless communication, which of the following statements is/are TRUE ?</p> <p>I. At least three non-overlapping channels are available for transmissions. II. The RTS-CTS mechanism is used for collision detection. III.Uncast frames are ACKed.</p>	<p>1. All I, II, and III 2. II only 3. II and III only 4. I and III only</p>

Foreign key is a subset of primary key is stated in -----constraint	1. Domain Constraint 2. Foreign Key Constraint 3. Referential Integrity Constraint 4. Semantic Constraint
General Purpose Software which creates and manipulates database is	1. NFS 2. DBMS 3. GIS 4. MIS
Generally Dynamic RAM is used as main memory in a computer system as it_____.	1. Consumes less power 2. Needs refreshing circuitry 3. Has lower cell density 4. Has higher speed
Given memory partitions of 100K, 500K, 200K, 300K, and 600K (in order), how would each of the First-fit, Best-fit, and Worst-fit algorithms place processes of 212K, 417K, 112K, and 426K (in order)? Which algorithm makes the most efficient use of memory?	1. All the three provides the same efficiency 2. Best -fit 3. Worst -fit 4. First- fit
Given the basic ER and relational models, which of the following is INCORRECT?	1. In a row of a relational table, an attribute can have exactly one value or a NULL value 2. An attribute of an entity can be composite 3. An attribute of an entity can have more than one value 4. In a row of a relational table, an attribute can have more than one value
Given the code String s1 = ? VIT? ; String s2 = ? VIT ? ; String s3 = new String (s1); Which of the following would equate to true?	1. s3 == s1 2. s1 == s2 3. s3=s1 4. s1 = s2
Given the following schema: employees(emp-id, first-name, last-name, hire-date, dept-id, salary) departments(dept-id, dept-name, manager-id, location-id) You want to display the last names and hire dates of all latest hires in their respective departments in the location ID 1700. You issue the following query: SQL>SELECT last-name, hire-date FROM employees	1. It generates an error because the GROUP BY clause cannot be used with table joins in a subquery 2. It executes and gives the correct result 3. It generates an error because of pairwise comparison 4. It executes but does not give the correct result.

WHERE (dept-id, hire-date) IN (SELECT dept-id, MAX(hire-date) FROM employees JOIN departments USING(dept-id) WHERE location-id = 1700 GROUP BY dept-id); What is the outcome?	
Having clause in SQL occurs with	1. where 2. group by 3. sort by 4. order by
How does servlet differ from CGI?	1. Easy to remember 2. Simple 3. Open source 4. Light weight Process
How many address bits are needed to select all memory locations in the $16K \times 1$ RAM?	1. 16 2. 8 3. 14 4. 10
How many illegitimate states has synchronous mod-6 counter ?	1. 1 2. 6 3. 2 4. 3
How to create a Date object in ipt?	1. dateObjectName := new Date([parameters]) 2. dateObjectName Date([parameters]) 3. dateObjectName.new Date([parameters]) 4. dateObjectName = new Date([parameters])
HTTP is implemented over	1. TCP 2. SMTP 3. POP 4. UDP
Identify the sorting technique that supports divide and conquer strategy and has (n^2) complexity in worst case	1. Quick 2. Merge 3. Insertion 4. Shell
If a virtual memory system has 4 pages in real memory and the rest must be swapped to disk. Which of the following is the hit ratio for the following page address stream. Assume memory starts empty, use the FIFO algorithm	1. 31% 2. 25% 3. 15% 4. 10%
If CurrNode pointer points to the previous node in the list and NewNode points to the newly created Node, the address assignments to be done for inserting a node in the middle of a singly linked list is	1. CurrNode->Next = NewNode->Next; NewNode->Next = CurrNode; 2. CurrNode = NewNode 3. NewNode->Next = CurrNode->Next; CurrNode->Next = NewNode; 4. CurrNode->Next = NewNode; NewNode->Next = CurrNode->Next

If every node u in G adjacent to every other node v in G, A graph is said to be	1. strongly connected 2. complete 3. isolated 4. finite
If the associativity of a processor cache is doubled while keeping the capacity and block size unchanged, which one of the following is guaranteed to be NOT affected?	1. Width of way selection multiplexer 2. Width of tag comparator 3. Width of set index decoder 4. Width of processor to main memory data bus
If the directive session.cookie_lifetime is set to 3600, the cookie will live until..	1. the browser is restarted 2. 3600 min 3. 3600 hrs 4. 3600 sec
If the Disk head is located initially at 32, find the number of disk moves required with FCFS if the disk queue of I/O blocks requests are 98,37,14,124,65,67.	1. 324 2. 315 3. 321 4. 310
If the main memory is of 8K bytes and the cache memory is of 2K words. It uses associative mapping. Then each word of cache memory shall be_____.	1. 21 bits 2. 16 bits 3. 11 bits 4. 20 bits
If the offset of the operand is stored in one of the index registers, then it is	1. based indexed addressing mode 2. indexed addressing mode 3. relative based indexed addressing mode 4. based addressing
If two interrupts, one of higher priority and other of lower priority occur simultaneously, then the service provided is for	1. interrupt of higher priority 2. both the interrupts 3. none of the mentioned 4. interrupt of lower priority
If you don't want the frame windows to be resizable, simply add what to the lines ?	1. dontresize 2. Delete 3. noresize 4. save
If a , b , c, are three nodes connected in sequence in a singly linked list, what is the statement to be added to change this into a circular linked list?	1. a->next=b 2. c->next=a 3. all 4. b->next=c

In 8257 register format, the selected channel is disabled after the terminal count condition is reached when	1. auto load is set 2. TC STOP bit is reset 3. TC STOP bit is set 4. auto load is reset
In a digital counter circuit feedback loop is introduced to	1. Asynchronous input and output pulses 2. Reduce the number of input pulses to reset the counter 3. Improve stability 4. Improve distortion
In Binary trees nodes with no successor are called	1. End nodes 2. Terminal nodes 3. Final nodes 4. Last nodes
In control word register, if SC1=0 and SC0=1, then the counter selected is	1. counter 2 2. counter 1 3. counter 0 4. counter 3
In design procedure input output values are assigned with	1. 1's 2. Letter Symbols 3. Numeric Symbols 4. 0's
In DMA transfers, the required signals and addresses are given by the _____	1. Processor 2. DMA controllers 3. Device drivers 4. The program itself
In dynamic routing mechanism the route changes in response to _____	1. fragmentation size 2. sequence order 3. time 4. link cost changes
In HTTP, which method gets the resource as specified in the URI	1. POST 2. PUT 3. TRACE 4. GET
In Multi-Processing Operating Systems:	1. Maximum throughput is achieved 2. Not suitable for Real Time Applications 3. Maximum security can be achieved 4. Maximum utilization of CPU can be achieved
In priority scheduling algorithm, when a process arrives at the ready queue, its priority is compared with the priority of	1. parent process 2. init process 3. currently running process 4. all process
In real time Operating System, which of the following is the most suitable scheduling scheme?	1. Random 2. Round Robin 3. FCFS 4. Scan

In RMI Architecture which layer Intercepts method calls made by the client/redirects these calls to a remote RMI service?	<p>1. Stub & Skeleton Layer</p> <p>2. Application Layer 3. Transport Layer 4. Remote Reference Layer</p>
In the blocked state	<p>1. the processes waiting for the processor are found 2. the process which is running is found 3. the processes waiting for I/O are found 4. the process ready to execute</p>
In the IPv4 addressing format, the number of networks allowed under Class C addresses is	1. 2^{14} 2. 2^{21} 3. 2^{24} 4. 2^7
In the running state	<p>1. all the processes waiting for I/O to be completed are found 2. only the process which has control of the processor is found 3. all the processes in the job queue are found 4. all the processes waiting for the processor are found</p>
In which addressing mode the operand is given explicitly in the instruction	1. Immediate. 2. Direct. 3. Absolute 4. Indirect.
In which category does the discrepancy between duplicate records belong?	1. Invalid 2. Inconsistent 3. Incomplete 4. Noisy
JAVA PROGRAMMING Java package is a grouping mechanism with the purpose of	<p>1. Replacing header file used in C/C++ 2. Controlling the visibility of the classes, interfaces and methods 3. Providing the library for the Java program 4. An application framework</p>
KDD (Knowledge Discovery in Databases) is referred to,	<p>1. collection of interesting and useful patterns in a database 2. data fusion 3. Non-trivial extraction of previously unknown useful information from data 4. data extraction</p>
Let R be the relation on the set of positive integers such that a Rb if and only if a and b are distinct and have a common divisor other than 1. Which one of the following statements about R is true?	<p>1. R is symmetric but not reflexive and not transitive 2. R is transitive but not reflexive and not symmetric 3. R is reflexive but not symmetric and not transitive 4. R is symmetric and reflexive but not transitive</p>
Let S and Q be two semaphores initialized to 1, where P0 and P1 processes the	<p>1. Semaphore 2. Signal</p>

<p>following statements wait(S);wait(Q);---; signal(S);signal(Q) and wait(Q); wait(S);---;signal(Q);signal(S); respectively. The above situation depicts a _____.</p>	<p>3. Deadlock 4. Interrupt</p>
<p>Let the size of congestion window of a TCP connection be 32 KB when a timeout occurs. The round trip time of the connection is 100 msec and the maximum segment size used is 2 KB. The time taken (in msec) by the TCP connection to get back to 32 KB congestion window is</p>	<p>1. 1200 2. 2221 3. 1100 4. 1300</p>
<p>Mac Operating system is developed by which company</p>	<p>1. IBM 2. Apple 3. Samsung 4. Microsoft</p>
<p>Microsoft SQL Server is an example for which OLAP Server?</p>	<p>1. Hybrid OLAP 2. Relational OLAP 3. Two-dimensional OLAP 4. Multi-dimensional OLAP</p>
<p>Minimal super key of a relation is called _____.</p>	<p>1. Primary Key 2. Super Key 3. Foreign Key 4. Alternate key</p>
<p>Minimum number of moves required to solve a Tower of Hanoi puzzle is</p>	<p>1. $2 n^2$ 2. $2^n - 1$ 3. $2n^1$ 4. $2^n + 1$</p>
<p>Minterms are arranged in map in a sequence of</p>	<p>1. gray code 2. BCD code 3. binary sequence 4. binary variables</p>
<p>Mod-6 and mod-12 counters are most commonly used in</p>	<p>1. frequency counters 2. multiplexed displays 3. power consumption meters 4. digital clocks</p>
<p>Mutual exclusion problem occurs between</p>	<p>1. None of these 2. Processes that do not use the same resource 3. Processes that share resources 4. two disjoint processes that do not interact</p>

NOP instruction introduces	1. delay 2. address 3. memory location 4. data
On simple paging system with 224 bytes of physical memory, 256 pages of logical address space, and a page size 210 bytes, how many bytes are in a page frame?	1. 256 bytes 2. 210 bytes 3. 224 bytes 4. none
One operation that is not given by magnitude comparator	1. addition 2. greater 3. equal 4. less
One that is not type of flipflop is	1. RS 2. ST 3. T 4. JK
Operating System 1. Assume that ?C? is a Counting Semaphore initialized to value ?10?. Consider the following program segment: P(C); V(C); P(C); P(C); P(C); V(C); V(C); V(C); V(C); P(C); V(C); V(C); P(C); V(C); V(C); P(C); What is the value of C?	1. 12 2. 6 3. 8 4. 10
Partial Degree of multiprogramming is controlled by	1. Depends on number of CPU's 2. Short term scheduler 3. Long term scheduler 4. Medium term scheduler
public class MyRunnable implements Runnable { public void run() { // some code here } }	1. new Thread(new MyRunnable()).start(); 2. new MyRunnable().start(); 3. new Runnable(MyRunnable).start(); 4. new Thread(MyRunnable).run();
which of these will create and start this thread?	
R has n tuples and S has m tuples, then the Cartesian product of R and S will produce _____ tuples.	1. n-m 2. n / m 3. n*m 4. n+m
R left outer join S on a=b gives	1. Rows from R and S where a=b 2. All rows from R and joined rows from S 3. All rows from R and S

	4. All rows from S and joined rows from R
RAID is a way to:	<p>1. Increase hard drive reliability and performance</p> <p>2. Increase hard drive latency and performance</p> <p>3. Increase hard drive performance and decrease cost</p> <p>4. Increase hard drive reliability and decrease cost</p>
Round robin scheduling is essentially the preemptive version of _____	<p>1. Longest time first</p> <p>2. FIFO</p> <p>3. Shortest job first</p> <p>4. Shortest remaining</p>
Routine is not loaded until it is called. All routines are kept on disk in a relocatable load format. The main program is loaded into memory & is executed. This type of loading is called _____	<p>1. Static loading</p> <p>2. Dynamic loading</p> <p>3. Overlays</p> <p>4. Dynamic linking</p>
RS flip-flops are also called	<p>1. TS Latch</p> <p>2. SR Latch</p> <p>3. RS Latch</p> <p>4. ST Latch</p>
Shift registers are used for	<p>1. Rotating</p> <p>2. Both a and b</p> <p>3. Shifting</p> <p>4. Adding</p>
Simplified form of the boolean expression $(X + Y + XY)(X + Z)$ is	<p>1. $XY + YZ$</p> <p>2. $X + YZ$</p> <p>3. $X + Y + Z$</p> <p>4. $XZ + Y$</p>
SQL allows duplicates tuples in relations, and correspondingly defines the multiplicity of tuples in the result of joins. Which one of the following queries always gives the same answer as the nested query shown below: select * from R where a in (select S.a from S)	<p>1. Select distinct R.* from R,S where R.a=S.a</p> <p>2. select R.* from R,S where R.a=S.a and is unique R</p> <p>3. Select R.* from R, S where R.a=S.a</p> <p>4. Select R.* from R,(select distinct a from S) as S1 where R.a=S1.a</p>
Supervisor call	<p>1. Is a call made by the supervisor of the system</p> <p>2. Is a call made by someone working in root director</p> <p>3. Are privileged calls that are used to perform resource management functions, which are controlled by the operating systems</p> <p>4. Is a call with control functions</p>

Suppose T is a binary tree with 14 nodes. What is the minimum possible depth of T?	1. 5 2. 3 3. 0 4. 4
Switching the CPU to another Process requires saving state of the old process and loading new process state is called as _____.	1. Context Switch 2. Process Blocking 3. Time Sharing 4. CPU Sharing
System calls:	1. Often change dramatically between different releases of an operating system 2. Provide a rich and flexible API for software developers 3. Allow the operating system to optimize performance 4. Protect kernel data structures from user code
Table that is not a part of asynchronous analysis procedure	1. flow table 2. transition table 3. state table 4. excitation table
table {color: blue;} With the above code snippet in use, what happens to a table?	1. The text inside the table would be colored blue. 2. The header row of the table would be colored blue. 3. The table background would be colored blue. 4. The table border would be colored blue.
TCP manages a point-to-point and _____ connection for an application between two computers	1. half duplex 2. simple 3. full-duplex 4. multi point
temp=root->left; while(temp->right!=NULL) temp=temp->right; return temp; The above code snippet for a BST with the address of the root node in pointer 'root' returns	1. Inorder successor of the root 2. Inorder predecessor of the root 3. Maximum element in the right subtree of root 4. Minimum element in the right subtree of root
The 16 bit flag of 8086 microprocessor is responsible to indicate -----	1. the result of subtraction 2. the result of addition 3. the condition of memory 4. the condition of result of ALU operation

The 16-bit 2's complement representation of an integer is 1111 1111 1111 0101, its decimal representation is _____.	1. 2 2. -11 3. 3 4. 1
The _____ is generally used to group hosts based on the physical network topology.	1. Subnet ID 2. NET ID 3. Host ID 4. Netmask
The _____ translates a byte from one code to another code	1. POP 2. XCHNG 3. XLAT 4. PUSH
The addressing mode used in an instruction of the form ADD R1, R2 is _____.	1. Index 2. Absolute 3. Indirect 4. Register
The amount of time required to read a block of data from a disk into memory is composed of seek time, rotational latency, and transfer time. Rotational latency refers to _____.	1. the time it takes for the read-write head to move into position over the appropriate track 2. the time it takes for the platter to make a full rotation 3. the time it takes for the platter to rotate the correct sector under the head 4. the time it takes for the platter to make a half rotation
The average time required to reach a storage location in memory and obtain its contents is called the	1. seek time 2. turnaround time 3. access time 4. transfer time
The best index for exact match query is	1. B Tree 2. Quad tree 3. Binary Tree 4. Bucket Hash
The best way to retrieve todays date in DBMS is	1. echo sysdate 2. select sysdate from emp 3. sysdate 4. select sysdate from dual
The cartesian product ,followed by select is equivalent to	1. Project 2. Query 3. Join 4. Union
The collection of processes on the disk that is waiting to be brought into memory for execution forms the _____	1. Input queue 2. Ready queue 3. Priority queue 4. Device queue
The common register(s) for all the four channels of 8257 are	1. mode set register and status register 2. terminal count register 3. address register 4. DMA address register

The constraint ?primary key cannot be null? is called as?	1. Entity Integrity 2. Primary key 3. Key 4. Referential integrity
The counter starts counting only if	1. CLK signal is low 2. GATE signal is high 3. GATE signal is low 4. CLK signal is high
The data bus buffer is controlled by	1. read/write control logic 2. control word register 3. address bus 4. data bus
The data manipulation language used in SQL is a, (I) Procedural DML (II) Non-Procedural DML (III) Modification DML (IV) Declarative DML	1. I and IV only 2. I and II only 3. III and IV only 4. II and IV only
The data type describing the types of values that can appear in each column is called _____.	1. Domain 2. Attribute 3. Relation 4. Tuple
The degree of a leaf node is:	1. -1 2. 1 3. 0 4. 2
The DMA controller has _____ registers	1. 1 2. 4 3. 3 4. 2
The embedded c program is converted by cross compiler to	1. the machine code corresponding to the processor of the PC used for application development 2. the machine code corresponding to a processor which is different from the processor of the PC used for application development 3. the machine code for all the microcontrollers 4. assemble code of the PC used for application development
The following function computes the maximum value contained in an integer array p[] of size n (n >= 1). int max(int *p, int n) { int a=0, b=n-1; while (_____){ if (p[a] <= p[b]) { a = a+1; } else { b = b-1; } } return p[a];	1. b != 0 2. b != a 3. b > (a + 1) 4. a != n

{ The missing loop condition is	
The following HTML attribute is used to specify the URL of the html document to be opened when a hyperlink is clicked.	1. PATH 2. HREF 3. LINK 4. SRC
The following query is called as ? select * from emp where ssn in (select dssn from dependent order by age desc) ?;	1. Nested Query 2. Ordered query 3. Top N Query 4. Pseudo column query
The HTTP response message leaves out the requested object when _____ method is used	1. GET 2. HEAD 3. PUT 4. POST
The load instruction is mostly used to designate a transfer from memory to a processor register known as	1. Instruction Register 2. Program counter 3. Accumulator 4. Memory address Register
The main difference between JK and RS flip-flop is that	1. JK flip flop needs a clock pulse 2. JK flip-flop is acronym of Junction cathode multivibrator 3. JK flip-flop accepts both inputs as 1 4. There is a feedback in JK flip-flop
The main function of dispatcher is:	1. swapping a process to disk 2. assigning ready process to the CPU 3. bring processes from the disk to main memory 4. suspending some of the processes when CPU load is high
The master slave JK flip-flop is effectively a combination of	1. A SR flip-flop and a T flip-flop 2. An SR flip-flop and a D flip-flop 3. A T flip-flop and a D flip-flop
The mechanism that bring a page into memory only when it is needed is called _____	1. Page Replacement 2. Demand Paging 3. Segmentation 4. Fragmentation
The minimum duration of the active low interrupt pulse for being sensed without being lost must be	1. equal to 2 machine cycles 2. Greater than one machine cycle 3. Greater than 2 machine cycles 4. Equal to one machine cycle
The minimum number of JK flip-flops required to construct a synchronous	1. 4 2. 2

counter with the count sequence (0,0, 1, 1, 2, 2, 3, 3, 0, 0,??.) is	3. 3 4. 1
The minimum number of NAND gates required to implement the Boolean function. $A + AB' + AB'C$ is equal to	1. 1 2. Zero 3. 7 4. 4
The number of counters that are present in the programmable timer device 8254 is	1. 4 2. 3 3. 2 4. 1
The number of min-terms after minimizing the following Boolean expression is _____. $[D' + AB' + A'C + AC'D + A'C'D]'$	1. 1 2. 2 3. 3 4. 4
The operating system of a computer serves as a software interface between the user and the _____.	1. Hardware 2. Peripheral 3. Memory 4. Screen
The OS of a computer may periodically collect all the free memory space to form contiguous block of free space. This is called	1. Dynamic Memory Allocation 2. Concatenation 3. Garbage collection 4. Collision
The part of the operating system that coordinates the activities of other program is called the	1. File manager 2. command processor 3. Input/output manager 4. Supervisor
The performance of cache memory is frequently measured in terms of a quantity called	1. average ratio 2. miss ratio 3. hit ratio 4. ratio
The post order traversal of binary tree is DEBFCA. Find out the pre order traversal.	1. ABDCEF 2. ABDEC F 3. ADBFEC 4. ABFCDE
c	1. 15,10,25,23,20,42,35,39,30 2. 10,20,15,23,25,35,42,39,30 3. 15,20,10,23,25,42,35,39,30 4. 15,10,23,25,20,35,42,39,30

The problem of thrashing is effected scientifically by _____.	1. Primary storage size 2. Program size 3. Program structure 4. Secondary storage
The process related to process control, file management, device management, information about system and communication that is requested by any higher level language can be performed by _____.	1. Caching 2. Editors 3. System Call 4. Compilers
The protocol data unit (PDU) for the application layer in the Internet stack is	1. Message 2. Frame 3. Datagram 4. Segment
The purpose of a TLB is	1. To hold register values while a process is waiting to be run 2. To hold the start and length of the page table 3. To cache page translation information 4. To cache frequently used data
The query to print alternate records (i.e even numbered) from a table is	1. SELECT * FROM EMP WHERE ROWNUM=ODD 2. SELECT * FROM EMP WHERE ROWID IN (SELECT DECODE (MOD (ROWNUM,2),0,ROWID,NULL) FROM EMP 3. SELECT * FROM EMP WHERE ROWID IN (SELECT DECODE (MOD (ROWNUM,2),0,NULL,ROWID) FROM EMP 4. SELECT * FROM EMP WHERE ROWNUM=EVEN
The recurrence relation capturing the optimal execution time of the Towers of Hanoi problem with n discs is	1. T(n)=2T(n-1)+1 2. T(n) = 2T(n-2)+2 3. T(n)=2T(n-1)+n 4. T(n)=2T(n/2)+1
The relation R={A,B,C,D,E,F} with FD A,B->C, C->D, C->E,F holds	1. MVD 2. Transitive dependency 3. Join dependency 4. Partial dependency
The run time of the following algorithm is Procedure A(n) If(n<=2) return(1) Else return(A(sqrt(n)))	1. O(n) 2. O(logn) 3. O(loglogn) 4. O(1)
The servlet life cycle has the following cycle.	1. Service destroy 2. Init service destroy 3. Init service 4. Init destroy service
The sign magnitude representation of binary number + 1101.011 is	1. 11101.011 2. 00110.100 3. 10010.100 4. 01101.011

<p>The size of the data count register of a DMA controller is 16 bits. The processor needs to transfer a file of 29,154 kilobytes from disk to main memory. The memory is byte addressable. The minimum number of times the DMA controller needs to get the control of the system bus from the processor to transfer the file from the disk to main memory is</p>	<p>1. 455 2. 457 3. 456 4. 454</p>
<p>The smallest integer than can be represented by an 8-bit number in 2's complement form is?</p>	<p>1. -256 2. -127 3. 1 4. -128</p>
<p>The Snapshot of a table is called as</p>	<p>1. Schema construct 2. Extension 3. Intension 4. State</p>
<p>The solution to Critical Section Problem is : Mutual Exclusion, Progress and Bounded Waiting.</p>	<p>1. The statement is partially valid 2. The statement is true. 3. The statement is false 4. The statement is contradictory.</p>
<p>The stage delays in a 4-stage pipeline are 800, 500, 400 and 300 picoseconds. The first stage (with delay 800 picoseconds) is replaced with a functionally equivalent design involving two stages with respective delays 600 and 350 picoseconds. The throughput increase of the pipeline is percent.</p>	<p>1. 34 2. 32 3. 35 4. 33</p>
<p>The technique, for sharing the time of a computer among several jobs, which switches jobs so rapidly such that each job appears to have the computer to itself, is called</p>	<p>1. Time out 2. Multitasking 3. Time domain 4. Time Sharing</p>
<p>The term P in semaphores means-----</p>	<p>1. Mutual exclusion 2. wait 3. Lock 4. signal</p>
<p>The Third stage in designing a database is when we analyze our tables more closely and create a _____ between tables.</p>	<p>1. Relationship 2. Query 3. Join 4.structure</p>
<p>The truth table $\begin{array}{cc c} X & Y & f(X,Y) \\ 0 & 0 & 0 \end{array}$ </p>	<p>1. $X'Y'$ 2. $X+Y$ 3. Y</p>

0 1 0 1 0 1 1 1 1 represents the Boolean function	4. X
This Key Uniquely Identifies Each Record	1. Primary Key 2. Key Record 3. Field Name 4. Unique Key
Three concurrent processes X, Y, and Z execute three different code segments that access and update certain shared variables. Process X executes the P operation (i.e., wait) on semaphores a, b and c; Process Y executes the P operation on semaphores b, c and d; Process Z executes the P operation on semaphores c, d, and a before entering the respective code segments. After completing the execution of its code segment, each process invokes the V operation (i.e., signal) on its three semaphores. All semaphores are binary semaphores initialized to one. Which one of the following represents a deadlock-free order of invoking the P operations by the processes?	1. X:P(b)P(a)P(c) Y:P(b)P(c)P(d) Z:P(a)P(c)P(d) 2. X:P(d)P(b)P(c) Y:P(b)P(c)P(a) Z:P(c)P(d)P(b) 3. X:P(a)P(b)P(c) Y:P(b)P(c)P(d) Z:P(c)P(d)P(a) 4. X:P(b)P(a)P(c) Y:P(b)P(a)P(d) Z:P(c)P(c)P(a)
To build a mod-19 counter the number of flip-flops required is	1. 3 2. 5 3. 7 4. 9
To prevent any method from overriding, the method has to declared as,	1. final 2. extends 3. const 4. static
Two variables will be represented by	1. six minterms 2. eight minterms 3. four minterms 4. five minterms
Update operation will violate	1.unique constraint 2. domain constraint 3. EIC 4. RIC
Use of _____ allows for some processes to be waiting on I/O while another process executes.	1. multiprogramming 2. multiuser interfacing 3. Random scheduling 4. Variable cpu cycles
Using 10's complement 72532- 3250 is	1. 69232 2. 69252 3. 69272 4. 69282

Virtual memory is _____.	1. An extremely large main memory 2. An extremely large secondary memory 3. An illusion of extremely large main memory 4. A type of memory used in super computers.
We want to design a synchronous counter that counts the sequence 0-1-0-2-0-3 and then repeats. The minimum number of J-K flip-flops required to implement this counter is	1. 3 2. 1 3. 4 4. 2
What are the states of the Auxiliary Carry (AC) and Carry Flag (CF) after executing the following 8085 program? MVI H, 5DH; MIV L, 6BH; MOV A, H; ADD L	1. AC=1 and CY=0 2. AC=0 and CY=1 3. AC=0 and CY=0 4. AC=1 and CY=1
What does JSP stand for?	1. Java Server Pages 2. Java Scripting Pages 3. Java Service Pages 4. Java Script Program
What does the code snippet given below do? <pre>void fun1(struct node* head) { if(head == NULL) return; fun1(head->next); printf("%d ", head->data); }</pre>	1. Prints alternate nodes of Linked List in reverse order 2. Prints all nodes of linked lists in reverse order 3. Prints all nodes of linked lists 4. Prints alternate nodes of Linked List
What does the following bit of JavaScript print out? <pre>var a = [1,,3,4,5]; console.log([a[4], a[1], a[5]]);</pre>	1. 5, undefined,undefined 2. 5,3,undefined 3. 5,0,undefined 4. 5,null,undefined
What happens when you push a new node onto a stack?	1. The new node is placed at the middle of the linked list 2. The new node is placed at the back of the linked list 3. The new node is placed at the front of the linked list 4. No Changes happens
What is a shell ?	1. It is a hardware component 2. It is a command interpreter

	3. It is a part in compiler 4. It is a tool in CPU scheduling
What is the content of Stack Pointer (SP)?	1. Address of the top element of the stack 2. Address of the current instruction 3. Address of the next instruction 4. Size of the stack
What is the correct HTML for making a hyperlink?	link
What is the main difference between traps and interrupts?	1. Whether or not the scheduler is called 2. The kind of code that's used to handle them 3. How they are initiated 4. How the operating system returns from them
What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255.255.255.224 subnet mask?	1. 30 2. 15 3. 14 4. 40
What is the output of the following program? <pre>#include using namespace std; int main() { int x=20; if(!(!x)&&x) cout<<x; else { x=10; cout<<x; return 0; }}</x; </x;</pre>	1. 20 2. 0 3. 1 4. 10
What is the postfix expression for the following infix expression? Infix = a+b%c>d	1.abc%+d> 2. abc%d>+ 3. ab+c%d> 4. abcd>%+
What is the return value of f(p,p) if the value of p is initialized to 5 before the call? Note that the first parameter is passed by	1. 161051 2. 6561 3. 55440 4. 3024

<p>reference, whereas the second parameter is passed by value.</p> <pre>int f (int &x, int c) { c=c-1; if (c<0) return 1; x=x+1; return f (x,c)*x;}</pre>	
<p>What is the software that runs a computer, including scheduling tasks, managing storage, and handling communication with peripherals?</p>	<p>1. bluetooth technology 2. driver 3. application suite 4. operating system</p>
<p>What is the unique characteristic of RAID 6 ?</p>	<p>1. Mirroring 2. Distributed Parity 3. Striping 4. Two independent distributed parity</p>
<p>What technique is often used to prove the correctness of a recursive function?</p>	<p>1. Diagonalization 2. Mathematical induction 3. Matrix Multiplication 4. Commutativity</p>
<p>What will be the output of the following C program?</p> <pre>void count(int n){ static int d=1; printf("%d ", n); printf("%d ", d); d++; if(n>1) count(n-1); printf("%d ", d); } void main(){ count(3); }</pre>	<p>1. 3 1 2 1 1 1 2 2 2 2. 3 1 2 2 1 3 4 3. 3 1 2 1 1 1 2 4. 3 1 2 2 1 3 4 4 4</p>
<p>When a program tries to access a page that is mapped in address space but not loaded in physical memory, then</p>	<p>1. no error occurs 2. segmentation fault occurs 3. page fault occurs 4. fatal error occurs</p>
<p>When an instruction is read from the memory, it is called</p>	<p>1. Memory write cycle 2. Fetch cycle 3. Instruction cycle 4. Memory Read cycle</p>

When an inverter is placed between both inputs of an SR flip-flop, then resulting flip-flop is	1. Master slave JK flip-flop 2. SR flip-flop 3. JK flip-flop 4. D flip-flop
When CPU is executing a Program that is part of the Operating System, it is said to be in	1. System mode 2. Simplex mode 3. Interrupt mode 4. Half mode
When process requests for a DMA transfer	1. Another process gets executed 2. Both a and c (point 1 and 4 are correct so, it should be " Both a and d") 3. The process continues execution 4. Then the process is temporarily suspended
When several processes access the same data concurrently and the outcome of the execution depends on the particular order in which the access takes place, is called	1. Dynamic condition 2. essential condition 3. race condition 4. critical condition
When two or more processes trying to execute a set of instructions and if the output depends on the order of execution of the process, this is termed as:	1. Progress 2. Synchronization 3. Race condition 4. Critical section
Where in an HTML document is the correct place to refer to an external style sheet?	1. At the top of the document 2. At the end of the document 3. In the section 4. In the section
Which algorithm chooses the page that has not been used for the longest period of time whenever the page required to be replaced?	1. least recently used algorithm 2. additional reference bit algorithm 3. first in first out algorithm 4. counting based page replacement algorithm
Which component of a database is used for sorting?	1. field 2. record 3. table 4. form
Which directory implementation is used in most Operating System?	1. Single level directory structure 2. Acyclic directory structure 3. Two level directory structure 4. Tree directory structure
Which level of RAID refers to disk mirroring with block striping?	1. RAID level 2 2. RAID level 0 3. RAID level 3 4. RAID level 1

Which method is used to remove the first element of an Array object?	1. shift() 2. pop() 3. unshift() 4. push()
Which module gives control of the CPU to the process selected by the short-term scheduler?	1. long -term scheduler 2. short-term scheduler 3. interrupt 4. dispatcher
Which of the following address modes calculate the effective address as address part of the instruction) + (content of CPU register)	1. Relative address Mode or Indexed address Mode 2. Indirect Address mode. 3. none of these 4. Direct Address Mode
Which of the following are sufficient conditions for deadlock?	1. Non-Preemption (all options are correct, all are condition for deadlock) 2. Circular wait 3. M.E 4. Hold and wait
Which of the following are used to generate a message digest by the network security protocols? (P) RSA (Q) SHA-1 (R) DES (S) MD5	1. R and S only 2. Q and S only 3. P and R only 4. Q and R only
Which of the following boolean expressions is not logically equivalent to all of the rest ?	1. $bd' + c'd' + ab + cd$ 2. $a(b+c) + cd$ 3. $ab + ac + (cd)'$ 4. $ab + (cd)' + cd + bd'$
Which of the following disk seek algorithms has the most variability in response time?	1. C-SCAN 2. SCAN 3. SSTF 4. FCFS
Which of the following disk seek algorithms would be the best choice to implement in a system that services an average of 5 disk requests per second?	1. SSTF 2. FCFS 3. SCAN 4. C-SCAN
Which of the following information is not part of Process Control Block? (i) Process State (ii) Process Page table (iii) List of Open files (iv) Stack Pointer	1. only 2 2. 3 & 4 3. Only 3 4. 2 and 4

Which of the following input controls that cannot be placed using <input type="text"/> tag?	1. Submit 2. Password 3. Text 4. Textarea
Which of the following instructions should be allowed only in Kernel Mode?	1. Disable all interrupts (multiple are correct click here) 2. Read the time-of-day clock 3. Set the time-of-day clock 4. Change the Memory Map
Which of the following is a disadvantage of file processing system? (I) Efficiency of high level programming, (II) Data Isolation (III) Integrity issues (IV) Storing of records as files	1. I only 2. III only 3. II and III only 4. II and IV only
Which of the following is example of in-place algorithm?	1. Insertion Sort (1,2,4 are correct check here go down in the page) 2. Selection sort 3. Merge Sort 4. Bubble Sort
Which of the following is not a conversion function in SQL?	1. to_char() 2. to_number() 3. to_string() 4. to_date()
Which of the following is not a data copy/transfer instruction?	1. POP 2. MOV 3. DAS 4. PUSH
Which of the following is not a function of a DBA?	1. Table creation 2. Index creation 3. User creation 4. Application creation
Which of the following is not a part of instruction cycle?	1. Wait Phase 2. Fetch phase 3. Decode phase 4. Execute phase
Which of the following is not a property of DBMS?	1. concurrent access is not possible 2. Authorized access 3. Redundancy control 4. Integrity check
Which of the following is not a stored procedure?	1. procedure 2. Date 3. function 4. trigger
Which of the following is NOT a superkey in a relational schema with attributes V,W,X,Y,Z and primary key V Y?	1. VWXY (all options are correct) 2. VWXYZ 3. VWYZ (check here) 4. VXYZ

Which of the following is not true of virtual memory?	1. It allows more efficient use of memory 2. It reduces the need for relocatable code 3. It requires hardware support 4. It requires the use of a disk or other secondary storage
Which of the following is not used for synchronization?	1. Busy waiting with test and set 2. Monitors 3. The banker's algorithm 4. The bakery algorithm
Which of the following is not usually stored in a two-level page table?	1. Virtual page number 2. Physical page number 3. Reference bit 4. Dirty bit
Which of the following is shared between all of the threads in a process? Assume a kernel level thread implementation.	1. File descriptors 2. Scheduler priority 3. Local variables 4. Register values
Which of the following is/are example(s) of stateful application layer protocols? (i)HTTP (ii)FTP (iii)TCP (iv)POP3	1. (i) and (ii) only 2. (iv) only 3. (ii) and (iii) only 4. (ii) and (iv) only
Which of the following logic expression is incorrect?	1. $1 \oplus 1 \oplus 1 = 1$ 2. $1 \oplus 1 = 0$ 3. $1 \oplus 0 = 1$ 4. $1 \oplus 1 \oplus 0 = 1$
Which of the following operator in SQL would produce the following result if applied between two relations Employee and Department? Eno EName DeptNo DName 111 Kumar 100 Sales 222 Steve 200 Finance Null Null 300 Admn 244 Meera 400 Mktg	1. Projection Join 2. Natural Join 3. Outer Join 4. Cartesian Join
Which of the following provides interface (UI) between user and OS	1. kernel 2. System call 3. Interrupt 4. Shell
Which of the following RDBMS does not incorporate relational algebra	1. Oracle 2. DB2 3. MS SQL 4. QBE

Which of the following statements is true ?	1. (A + B) (A + C) = A + BC 2. (A + B) (A + C) = AC + BC 3. (A + B) (A + C)= AC + B 4. (A + B) (A + C) = AB + C
Which of the following transport layer protocols is used to support electronic mail?	1. IP 2. SMTP 3. UDP 4. TCP
Which of the following unit will choose to transform decimal number to binary code ?	1. Decoder 2. Encoder 3. Multiplexer 4. Counter
Which of these interface abstracts the output of messages from httpd?	1. Httpdserver 2. httpdResponse 3. LogResponse 4. LogMessage
Which of these is a stand alone tag?	1. frame 2. anchor 3. table 4. form
Which of these is asymptotically bigger?	1. 6*2n 2. 79n ² +43n 3. 65n ³ +34n 4. none
Which of these is Server side technology?	1. CGI 2. CSS 3. HTML 4. Javascript
Which one of the following is NOT a part of the ACID properties of database transactions?	1. Atomicity 2. Deadlock 3. Isolation 4. Consistency
Which one of the following statements is NOT correct about HTTP cookies?	1. A cookie is a piece of code that has the potential to compromise the security of an internet user 2. A cookie has an expiry date and time 3. A cookie gains entry to the user's work area through an HTTP header 4. Cookies can be used to track the browsing pattern of a user at a particular site
Which one of these is characteristic of RAID 5?	1. All parity in a single disk 2. No Parity 3. Double Parity 4. Distributed parity

Which scheduling policy is most suitable for a time-shared operating system?	1. Elevator 2. First –come-first-serve 3. Round Robin 4. Shortest Job First
Which standard TCP port is assigned for contacting SSH servers?	1. port 24 2. port 21 3. port 23 4. port 22
While inserting the elements 71,65,84,69,67,83 in an empty binary search tree (BST) in the sequence shown, the element in the lowest level is	1. 34 2. 78 3. 45 4. 67
With a single resource, deadlock occurs,	1. None of these 2. if there is a single process competing for that resource 3. if there are only two process completing for that resource 4. if there are more than two processes competing for that resource
X.25 Networks are _____ networks	1. Circuit switched 2. UDP 3. Packet switched 4. Connectionless service
X=1010100 and Y=1000011 using 2's complement X-Y is	1. 10111 2. 10001 3. 101101 4. 10011
The <big> tag makes	1.Text to uppercase 2.Text to bold 3.Text to be bigger than the surrounding text 4.Text to be strong
Which of the following is the right syntax for assertion?	1.Create assertion 'assertion-name' check 'predicate'; 2.Create assertion check 'predicate' 'assertion-name'; 3.Create assertions 'predicates'; 4.All of the mentioned
..... data type can store unstructured data	1.RAW 2.CHAR 3.NUMERIC 4.VARCHAR

..... command can be used to modify a column in a table	1.alter 2.update 3.set 4.create
..... is preferred method for enforcing data integrity	1. Constraints 2.Stored Procedure 3.Triggers 4.Cursors
A table can have only one	1.Secondary key 2.Alternate key 3.Unique key 4.Primary key
Given the basic ER and relational models, which of the following is INCORRECT?	1.An attributes of an entity can have more than one value 2.An attribute of an entity can be composite 3.In a row of a relational table, an attribute can have more than one value 4.In a row of a relational table, an attribute can have exactly one value or a NULL value
Select operation in SQL is equivalent to	1.the selection operation in relational algebra 2. the selection operation in relational algebra, except that select in SQL retains duplicates 3.the projection operation in relational algebra 4.the projection operation in relational algebra, except that select in SQL retains duplicates
Which database level is closest to the users?	1. External 2.Internal 3.Physical 4.Conceptual
Which of the following is not a binary operator in relational algebra?	1.Join 2.Semi-Join 3.Assignment 4.Project
Which of the following is TRUE?	1.Every relation in 2NF is also in BCNF 2.A relation R is in 3NF if every non-prime attribute of R is fully functionally dependent on every key of R 3.Every relation in BCNF is also in 3NF 4.No relation can be in both BCNF and 3NF
Which of the following is/are not a DDL statements?	1.Create 2.Drop 3.Alter 4.delete
Which one of the following statements is FALSE?	1.Any relation with two attributes is in BCNF 2.A relation in which every key has only one attribute is in 2NF 3.A prime attribute can be transitively dependent on a key in a 3NF relation 4.A prime attribute can be transitively dependent on a key in a BCNF relation

DCL stands for	<p>1. Data Control Language</p> <p>2. Data Console Language 3. Data Console Level 4. Data Control Level</p>
Grant and revoke are statements	1. DDL 2. TCL 3. DCL 4. DML
Let E1 and E2 be two entities in an E/R diagram with simple single-valued attributes. R1 and R2 are two relationships between E1 and E2, where R1 is one-to-many and R2 is many-to-many. R1 and R2 do not have any attributes of their own. What is the minimum number of tables required to represent this situation in the relational model?	1.2 2. 3 3. 4 4. 5
Which of the following is not true about segmented memory management?	<p>1.Segment length must be a multiple of the page size 2.Segmentation allows multiple linear address space in one process 3.Segmentation can be used with paging to keep segments partially resident in memory 4.A segment can be read-only for one process and read-write for another</p>
A typical hard drive has a peak throughput of about	<p>1.2 x 105 bytes per second 2.2 x 106 bytes per second 3.2 x 107 bytes per second 4.2 x 108 bytes per second</p>
In the process state transition diagram, the transition from the READY state to the RUNNING state indicates that:	<p>1.A process was pre-empted by another process 2.A process has blocked for a semaphore or other operation 3.A process is done waiting for an I/O operation 4.A process was just created</p>
RAID is a way to:	<p>1.Increase hard drive latency and performance 2.Increase hard drive performance and decrease cost 3.Increase hard drive reliability and performance 4.Increase hard drive reliability and decrease cost</p>
The main advantage of DMA is that it	<p>1.Increases system performance by increasing concurrency 2Allows the CPU to run faster 3.Reduces the traffic on the data bus 4.Removes the requirement that transfers be properly aligned</p>

What is the main difference between traps and interrupts?	1.How they are initiated 2.The kind of code that's used to handle them 3.Whether or not the scheduler is called 4.How the operating system returns from them
Which of the following is not included in an inode in Linux?	1.File owner 2.File name 3.File modification date 4.Pointer to the first data block
Which of these would not be a good way for the OS to improve battery lifetime in a laptop?	1.Shut down the hard drive until it's needed 2.Reduce the processor speed while it's idle 3.Turn off power to the memory 4.Shut down the modem when it's not connected
The Normal form does not involve any dependencies.	1.1NF 2.2NF 3.3NF 4.4NF
Attributes that are divisible are called	1.composite 2.simple 3.atomic 4.single
Entity types that do not have key attributes is	1. strong entity type 2.weak entity type 3.key entity type 4.negative key attribute
One of the DDL command is	1.rename 2.update 3.insert 4.select
the collection of all entities of particular entity type in the database at any point in time is	1. Entity 2. Entity Type 3.Entity Set 4. relation
The command which is used to change the structure of the table	1. Delete 2. Truncate 3.Alter 4. update
the degree of a relationship type is	1.no of participating entity types 2. no of attributes 3. no of values in the relationship 4. no of transactions
Another name for total participation is	1. partial participation 2. existence dependency 3. functional dependency 4. non dependency

No of entity type participate in recursive relationship are	1. three 2. two 3. one 4. zero
The main property of normalization is	1. joining 2. decomposition 3. adding 4. altering
Spurious tuples generation are avoided by	1. Cartesian product 2. join condition 3. projection 4. filtering
In a relational schema, each tuple is divided into fields called	1.Queries 2.Domains 3.Relations 4.All of these
<pre>#include int main () { static int a[]={10, 20, 30 40, 50}; static int *p[]={a, a+3, a+4, a+1, a+2}; int **ptr=p; ptr++; printf ("%d%d", ptr p, **ptr); }</pre> <p>The output of the program is _____.</p>	1.43 2.140 3.89 4.78
Which of the following sorting algorithms has the lowest worst-case complexity?	1. Merge sort 2. Bubble sort 3. Quick sort

	4. Selection sort
ICMP is primarily used for	1. error and diagnostic functions 2. addressing 3. forwarding 4. Networking
If a designer wants to design a point-to-point subnetwork with 10 routers of full duplex line, then total number of lines among them would be	1.10 2.20 3.45 4.90
If data rate of ring is 20 Mbps, signal propagation speed is 200 b/ms, then number of bits that can be placed on the channel of 200 km is	1.20000 bits 2. 1000 bits 3. 10000 bits 4.2000 bits
Maximum data rate of a channel for a noiseless 3-kHz binary channel is	1.3000 bps 2.6000 bps 3.4500 bps 4.1500 bps
Maximum data rate of a channel of 3000 Hz bandwidth and SNR of 30 dB is	1. 1,000 bps 2. 15,000 bps 3. 30,000 bps 4. 75,000 bps
Packet discard policy is implemented in	1.Physical layer 2.Data link layer 3.MAC layer 4.Network layer
The maximum number of binary trees that can be formed with three unlabeled nodes is:	1. 1 2.5 3.4 4.3
Which multiple access technique is used by IEEE 802.11 standard for wireless LAN?	1.CDMA 2. CSMA/CA 3.ALOHA4.none of the mentioned

Which of the following command remove a relation from an SQL database	1. Delete 2. Drop table 3. Remove 4. Purge
----- is used to define internal schema	1. storage definition language 2. View definition language 3. Data Definition language 4. Data Manipulation Language
----- component of DBMS extracts DML commands from an application program written in a host programming language	1.DML Compiler 2DDL Compiler 3.Pre Compiler 4.Query Optimizer
----- is used to describe the structure and constraints for the whole database for a community of users hides the details of physical storage structures in three -schema architecture	1. system catalog 2. Internal Schema 3. External Schema 4. Conceptual schema
-----describes the the part of the database that a particular user group is interested in and hides the rest.	1. External Schema 2. Internal Schema 3. Conceptual schema 4. System catalog
-----contains information such as the structure of each file, the type and storage	1.Database Schema 2.Database Catalog 3.Data dictionary 4.Lock table

format of each data item, and various constraints on the data	
-----index has an entry for every search key value (and hence every record) in the data file	1.Sparse 2.cluster 3. dense 4.no indices will have like that
-----is used to summarize information from multiple tuples into a single-tuple summary	1.Aggregate function 2.Joins 3.Division 4.cartesian product
-----involves finding the best line to fit two attributes so that one attribute is used to predict another attribute.	1.Outlier 2.Cluster 3.Regression 4.Classifier
. For computers based on three - address instruction formats, each address field can be used to specify which of the following: S1: A memory operand S2: A processor register S3: An implied accumulator registers	1.Either S1 or S2 2.Only S2 and S3 3.Either S2 or S3 4.All of S1, S2 and S3
1. Among the following sorting techniques ,which has its time complexity as O(n) in the best-case?	1. Quick sort 2. Insertion sort 3. Both 4. None
1. Among the following which is not the application of a stack?	1.Postponing data usage 2.Job scheduling 3.Backtracking 4.none
1. Consider a dynamic queue with two pointers: front and rear. What is the time needed to insert an element in a queue of length of n?	1.O(log2n) 2.O(n). 3.O(1) 4.O(n log2n).

<p>1. For the array , (77 ,62,114,80,9,30,99), write the order of the elements after two passes using the Radix sort.</p>	<p>1.80 30 62 114 77 9 99 2.114 30 62 77 9 99 3.9 114 30 62 77 80 99 4.9 30 62 77 80 99 114</p>
<p>1. For the array , (77 ,62,14,80,9,30,99) , if Quick sort technique is followed,what will be the array status after placing the first pivot element in its appropriate place?</p>	<p>1.9 14 30 62 77 80 99 2.30 62 14 77 9 80 99 3.30 62 14 9 77 80 99 4.none</p>
<p>If a[] is the array containing the elements to be sorted using radix sort, during the second iteration in which the second Least Significant Digit is considered, row number in 2D array to which an element has to be stored is given by</p>	<p>1.a[i]/10%10 2.a[i]%10/10 3.a[i]%10 4.a[i]/100%10</p>
<p>1. If a , b , c, are three nodes connected in sequence in a singly linked list</p> <pre>struct node *temp=a; while(temp!=NULL) { temp=temp->next; printf(" \$"); }</pre> <p>Assuming ‘c’ to be the last node, the output is</p>	<p>1.\$\$ 2.\$ 3.NULL 4.Error</p>
<p>1. Inorder and postorder traversal sequences of a binary tree are 45 50 55 65 70 75 80 85 90 and 45 55 65 50 75 90 85 80 70. What are its leaf nodes?</p>	<p>1.55 90 2.45 55 90 3.75 55 45 90 4.55 65 75 90</p>
<p>1. On adopting shell sort technique, the output of the array (21,62,14,9,30,77,80,25) after a pass with increment size =3, is</p>	<p>1.9 30 14 21 25 77 80 62 2.9 25 14 21 30 77 80 62 3.9 14 21 25 30 62 77 80 4.the same array</p>
<p>1. The preorder traversal of the AVL tree obtained by inserting 17,7,20,10,8 is</p>	<p>1.7 8 10 17 20 2.17 8 7 10 20 3.7 10 8 17 20 4.17 10 7 8 20</p>

<p>1. Which sorting technique uses a data structure similar to the one used in bucket hashing?</p>	<p>1.Quick 2.Merge 3.Heap 4.Radix</p>
<p>1. While applying Quick sort technique for the array 5 4 3 8 12 6 10 1 7 9, if pivot =5, after the first traversal on both sides, 'l' and 'r' will be</p>	<p>1.1&9 2.3&7 3.7&3 4.9&1</p>
<p>1. Elements 7, 2, 8, 1, 4, 3, 5 are to be inserted in an AVL tree. After insertion and height balancing it, the root node will be</p>	<p>1.2 2.7 3.4 4.none</p>
<p>1. In a directed graph, the statement "if(adj[x][y]==1 && visited[y]==0)"</p>	<p>1. Checks if x is reachable from y and y has not yet been visited 2. Checks if y is reachable from x and x has not yet been visited 3. Checks if x is reachable from y and x has not yet been visited 4. Checks if y is reachable from x and y has not yet been visited</p>
<p>7. There are 'm' processes and 'n' instances of a Resource provided. Each process needs 'P' instances of the resource. In which case deadlock will never occur?</p>	<p>1.(P - 1) m + 1 = n 2.(P - 1) m + 1 < n 3.(P - 1) m = n + 1 4.(P - 1) m = n + 1</p>
<p>When a network interface has a failure in its circuitry, it sends a continuous stream of frames causing the Ethernet LAN to enter a Collapse state. This condition is known as _____.</p>	<p>1.Scattering 2.Blocking 3. Jabbering 4.Refreshing</p>
<p>1. In a circular list with 5 nodes, let 'temp' point to the 4th node at present.</p> <pre>int i; for(i=0;i<4;i++) temp=temp->next;</pre> <p>The above code will make 'temp' point to</p>	<p>1.5th node 2.3rd node 3.4th node itself 4.error</p>
<p>1. A circularly linked list is used to represent a Queue. A single variable p is used to access the Queue. To which node</p>	<p>1.rear 2.front 3. not possible with single variable</p>

should p point such that both the operations enQueue and deQueue can be performed in constant time?	4.node next to front
1. If a sequence of enqueue(1), enqueue (2), deque, enqueue (1), enqueue (2), deque, deque, enqueue (2) operations are performed in a queue , the list of elements that would have been processed are	1.1,2,1,2,2 2.1,2,1,2 3.1,2,2,1,2 4.1,2,2,1
1. You are given pointer p that points to the last node in a circular list and another singly linked list whose first node is pointed to by 'head' and last node is pointed to by 'tail' has to be appended to the end of the circular list. Which of the following is correct?	1.p->next=head; tail->next=p; 2.p->next=head; tail->next=p->next; 3.tail->next=p->next; p->next=head; 4.tail->next=p; p->next=head;
A heap memory area is used to store the	1.Local variables declared in the method 2.Global variables 3. Memory of objects 4. Static variables
Consider the following code. static void nPrint(String message, int n) { while (n > 0) { System.out.print(message); n--; } } What is the printout of the call nPrint('a', 4)?	1. aaaaa 2. aaaa 3. aaa 4. aa
1. What will be printed as the output of the following program? public class testincr { public static void main(String args[]) { int i=0; i = i++ + i;	1. I = 0 2. I = 1 3. I = 2 4. I = 3

<pre>System.out.println(" I = " +i); }}</pre>	
<p>What is the output of following JavaScript code?</p> <pre><script type="text/javascript"> x=4+"4"; document.write(x); </script></pre>	<p>1.8 2.4 3.44 4.Error</p>
<p>How do you put a message in the browser's status bar?</p>	<p>1.window.status("put your message here") 2. statusbar = "put your message here" 3.window.status = "put your message here" 4.status("put your message here")</p>
<p>What is the output of following JavaScript code?</p>	<p>1.2 2.12 3.11 4.13</p>
<p>Who invented the JavaScript programming language?</p>	<p>1.Tennis Ritchie 2.James Gosling 3.Brendan Eich 4.Mark crispin</p>
<p>1. If a sequence of push(1), push(2), pop,push(1),push(2),pop, pop, push(2) pop operations are performed in a stack , the sequence of popped out values are</p>	<p>1.2,2,1,1,2 2.2,2,1,2,2 3.2,1,2,2,1 4.2,1,2,2,2</p>
<p>13. Which of the following line of code is suitable to start a thread ?</p>	<p>1.Thread t = new Thread(X); 2. Thread t = new Thread(this); t.start(); 3.X run = new X(); Thread t = new Thread(run); t.start(); 4.Thread t = new Thread(); x.run();</p>
<p>Consider the following code:</p> <pre>public class Test { public static void main(String[] args) { int[] x = new int[5]; int i; for (i = 0; i < x.length; i++)</pre>	<p>1.The program displays 0 1 2 3 4 2.The program displays 4 3.The program has a runtime error because the last statement in the main method causes ArrayIndexOutOfBoundsException 4.The program displays 1 2 3 4 5.</p>

```

x[i] = i;
System.out.println(x[i]);
}
}

```

What is the output of the following program:

```

public class testmeth
{
    static int i = 1;
    public static void main(String
args[])
    {
        System.out.println(i+” , “);
        m(i);
        System.out.println(i);
    }
    public void m(int i)
    {
        i += 2;
    }
}

```

- 1.
 - 1 , 3
 - 2.
 - 3 , 1
 - 3.**
 - 1 , 1**
 - 4.
- Compile time error

Consider following code.

```

public class Test {
public static void main(String[] args) {
    System.out.println(m(2));
}
public static int m(int num) {
    return num;
}
public static void m(int num) {

```

- 1.The program has a syntax error because the two methods m have the same signature**
- 2.The program has a syntax error because the second m method is defined,
but not invoked in the main method
3.The program runs and prints 2 once
4.The program runs and prints 2 twice

<pre>System.out.println(num); } }</pre>	
<pre>void Function(int n) { int i, count =0;; for(i=1; i*i<=n; i++) count++; }</pre> <p>The time complexity of the above code snippet is</p>	<ol style="list-style-type: none"> 1. $O(n)$ 2. $O(\log n)$ 3. $O(\sqrt{n})$ 4. $O(n^2)$
If message in Segmentation and Reassembly (SAR) sub layer of Application Adaptation Layer 3/4 has value of Segment type is 11 then it is called a	<ol style="list-style-type: none"> 1. Beginning message 2. Ending message 3. Single-segment message 4. Middle message
In Mode, the authentication header is inserted immediately after the IP header.	<ol style="list-style-type: none"> 1.Tunnel 2.Transport 3. Packet switching 4. Payload of the header
The protocol defines a set of messages sent over either User Datagram Protocol (UDP) port 53 or Transmission Control Protocol (TCP) port 53.	<ol style="list-style-type: none"> 1. Name space 2.DNS 3. Domain space 4. Zone transfer
UDP uses..... to handle outgoing user datagrams from multiple processes on one host.	<ol style="list-style-type: none"> 1. Flow Control 2.Multiplexing 3. Demultiplexing 4. Data Control
In the following pairs of OSI protocol layer/sub-layer and its functionality, the INCORRECT pair is	<ol style="list-style-type: none"> 1. Network layer and Routing 2.Data Link Layer and Bit synchronization 3. Transport layer and End-to end process communication 4. Medium Access Control sub-layer and Channel sharing
A bit-stuffing based framing protocol uses an 8-bit delimiter pattern of 01111110. If	<ol style="list-style-type: none"> 1.0111110100 2.0111110101 3.0111111101 4.0111111111

the output bit-string after stuffing is 01111100101, then the input bit-string is	
In one of the pairs of protocols given below, both the protocols can use multiple TCP connections between the same client and the server. Which one is that?	<p>1.HTTP,FTP 2.HTTP,TELNET 3.FTP,SMTP 4.HTTP,SMTP</p>
A telephone switch is a good example of which of the following types of switches.	1.packet 2.buffer 3.fabric 4.circuit
How switching is performed in the internet?	1.Datagram approach to circuit switching at data link layer 2.Virtual circuit approach to message switching at network layer 3.Datagram approach to message switching at datalink layer 4.Datagram approach to packet switching at network layer.
Assume that source S and destination D are connected through two intermediate routers labeled R. Determine how many times each packet has to visit the network layer and the data link layer during a transmission from S to D.	1.Network layer – 4 times and Data link layer-4 times 2.Network layer – 4 times and Data link layer-3 times 3.Network layer – 4 times and Data link layer-6 times 4.Network layer – 2 times and Data link layer-6 times
Identify the correct sequence in which the following packets are transmitted on the network by a host when a browser requests a webpage from a remote server, assuming that the host has just been restarted.	1.HTTP GET request, DNS query, TCP SYN 2.DNS query, HTTP GET request, TCP SYN 3.DNS query, TCP SYN, HTTP GET request 4.TCP SYN, DNS query, HTTP GET request
If a class B network on the Internet has a subnet mask of 255.255.248.0, what is the maximum number of hosts per subnet?	1.1022 2.1023 3.2046 4.2047
In an Ethernet local area network, which one of the following statements is TRUE?	1.A station stops to sense the channel once it starts transmitting a frame 2.The purpose of the jamming signal is to pad the frames that are smaller than the minimum frame size 3.A station continues to transmit the packet even after the collision is detected. 4.The exponential backoff mechanism reduces the probability of collision on retransmissions.

Which one of the following fields of an IP header is NOT modified by a typical IP router?	1.Checksum 2. Source address 3.Time to Live (TTL) 4.Length
Which one of the following protocols is NOT used to resolve one form of address to another one?	1.DNS 2.ARP 3. DHCP 4.RARP
An IP router with a Maximum Transmission Unit (MTU) of 1500 bytes has received an IP packet of size 4404 bytes with an IP header of length 20 bytes. The values of the relevant fields in the header of the third IP fragment generated by the router for this packet are	1. MF bit: 0, Datagram Length: 1444; Offset: 370 2.MF bit: 1, Datagram Length: 1424; Offset: 185 3.MF bit: 1, Datagram Length: 1500; Offset: 370 4.MF bit: 0, Datagram Length: 1424; Offset: 2960
-----module of the DBMS controls access to DBMS information that is stored on disk, whether it is part of the database or the catalog	1. Stored data manager 2.DDL Compiler 3.DDL Catalog 4.DML Compiler
If a hospital has to store the description of each visit of a patient according to date what attribute you will use in the patient entity type?	1.composite 2.complex 3.multivalued 4.weak entity
What is the sequence of major events in the life of an applet?	1. init, start, stop, destroy 2.start, init , stop , destroy 3.init, start , destroy, stop 4. init, start, destroy
Suppose that everyone in a group of N people wants to communicate secretly with N-1 others using symmetric key cryptographic system. The communication between any two persons should not be decodable by the others in the group. The number of keys required in the system as a whole to satisfy the confidentiality requirement is	1.2N 2.N(N-1) 3. N(N-1)/2 4.(N-1)2
Value of checksum must be recalculated regardless of	1.De-fragmentation 2. Fragmentation 3.Transferred 4.Shared

Dotted-decimal notation of 10000001 00001011 00001011 11101111 would be	1.193.131.27.255 2.129.11.11.239 3.192.168.10.9 4.172.16.11.3
Which one of the following is the recurrence equation for the worst case time complexity of the Quicksort algorithm for sorting $n (\geq 2)$ numbers? In the recurrence equations given in the options below, c is a constant.	1. $T(n) = 2T(n/2) + cn$ 2. $T(n) = T(n - 1) + T(0) + cn$ 3. $T(n) = 2T(n - 2) + cn$ 4. $T(n) = T(n/2) + cn$
These networking classes encapsulate the "socket" paradigm pioneered in the (BSD) Give the abbreviation of BSD?	1.Berkeley Software Distribution 2.Berkeley Socket Distribution 3.Berkeley System Data 4.Berkeley SynchronizationData
The local host and the remote host are defined using IP addresses. To define the processes, we need second identifiers called	1.UDP addresses 2.transport addresses 3.Port addresses 4.TCP addresses
_____ uniquely identifies the MIME entities uniquely with reference to multiple contexts.	1.Content description 2.Content-id 3.Content type 4.Content transfer encoding
The resources needed for communication between end systems are reserved for the duration of session between end systems in	1.Packet switching 2.Circuit switching 3.Line switching 4. Frequency switching
A layer -4 firewall (a device that can look at all protocol headers up to the transport layer) CANNOT	1.block entire HTTP traffic during 9:00PM and 5:00AM 2.block all ICMP traffic 3.stop incoming traffic from a specific IP address but allow outgoing traffic to the same IP address 4.block TCP traffic from a specific user on a multi-user system during 9:00PM and 5:00AM
If message in Segmentation and Reassembly (SAR) sub layer of Application Adaptation Layer 3/4 has value of Segment type is 11 then it is called a	1.Beginning message 2.Ending message 3.Single-segment message 4.Middle message
In Circuit Switching, resources need to be reserved during the	1.Data transfer phase 2.Tear down phase 3.Setup phase 4.Propagation phase

The transport layer protocols used for real time multimedia, file transfer, DNS and email, respectively are	1.TCP, UDP, UDP and TCP 2.UDP, TCP, TCP and UDP 3.UDP, TCP, UDP and TCP 4.TCP, UDP, TCP and UDP
Digital signature envelope is decrypted by using _____.	1. Merchant Private Key. 2. Payment's Private Key. 3. Payment Public Key. 4. Merchant's Public Key.
One of the header fields in an IP datagram is the Time to Live (TTL) field. Which of the following statements best explains the need for this field?	1. It can be used to prioritize packets 2. It can be used to reduce delays 3. It can be used to optimize throughput 4. It can be used to prevent packet looping
The processed S/MIME along with security related data is called as _____.	1. Public Key Cryptography Standard 2.Private Key Cryptography Standard 3.S/MIME 4.MIME
Which one of the following allows a user at one site to establish a connection to another site and then pass keystrokes from local host to remote host?	1.HTTP 2.FTP 3.Telnet 4. Sonet
Using public key cryptography, X adds a digital signature σ to message M, encrypts $\langle M, \sigma \rangle$, and sends it to Y, where it is decrypted. Which one of the following sequences of keys is used for the operations?	1.Encryption: X's private key followed by Y's private key; Decryption: X's public key followed by Y's public key 2.Encryption: X's private key followed by Y's public key; Decryption: X's public key followed by Y's private key 3.Encryption: X's public key followed by Y's private key; Decryption: Y's public key followed by X's private key 4.Encryption: X's private key followed by Y's public key; Decryption: Y's private key followed by X's public key
----- is a mode of operation for a block cipher, with the characteristic that each possible block of plaintext has a defined corresponding ciphertext value and vice versa.	1.Foot printing 2.Hash Function 3.WaterMark 4.Electronic Code Book
_____ Substitution is a process that accepts 48 bits from the XOR operation.	1.S-box 2.P-box 3.Expansion permutations 4.Key transformation

Which one of the following is a cryptographic protocol used to secure HTTP connection?	1.Stream Control Transmission Protocol (SCTP) 2.Transport Layer Security (TSL) 3.Explicit Congestion Notification (ECN) 4.Resource Reservation Protocol
Which method must be defined by a class implementing thejava.lang.Runnable interface?	1.void run() 2.public void run() 3.public void start() 4.void run(int priority)
. The attributes in foreign key and primary key have the same _____.	1.Number of tuples 2.Number of attributes 3.Domain 4.Symbol
A clustering index is created when _____.	1.primary key is declared and ordered 2.no key ordered 3.foreign key ordered 4.there is no key and no order
Division operation is ideally suited to handle queries of the type:	1.customers who have no account in any of the branches in Melbourne 2.customers who have an account at all branches in Melbourne 3.customers who have an account in atleast one branch in Melbourne 4.customers who have only joint account in any one branch in Melbourne
If a transaction T has obtained an exclusive lock on item Q, then T can	1.read Q 2.write Q 3.read and write Q 4.write Q but not read Q
The expected size of the join result divided by the maximum size is called _____.	1.Join cardinality 2.join selectivity 3.join count 4.number of rows
The process of analyzing the given relation schemas based on their functional dependencies is known as	1.Dependency 2.Normalization 3Concurrency 4.Cannot be determined
What are the desirable properties of a transaction?	1.Atomicity, consistency, isolation, deadlock 2.Atomicity, consistency, isolation, durability 3.Atomicity, concurrency, isolation, durability 4.Atomicity, concurrency, integrity, durability
What operator performs pattern matching?	1.LIKE 2.NULL

	3.NOT NULL 4.IS NULL
What does isNaN function do in JavaScript?	<p>1. Return true if the argument is not a number. 2. Return false if the argument is not a number. 3. Return true if the argument is a number. 4. None of the above</p>
What is the output of following JavaScript code	<pre><script type="text/javascript"> var cst = "PHPKB Knowledge Base Software"; var result =cst.substring(7,8); document.write(result);</script></pre>
1.n 2. Error 3. Software 4. SOFTWARE	
What is the output of following JavaScript code?	<pre><script type="text/javascript"> function x() { var s = "Quality 100%{[!!"; var pattern = /\w/g; document.write(s.match(pattern)); }</script></pre>
1.%,!,{,[,! 2.Q,u,a,l,i,t,y,1,0,0 3. Quality 100 4. Error	
What is the output of following JavaScript code?	<pre><script type="text/javascript"> var cst="Chadha Software Technologies"; var result= cst.split(" "); document.write(result); </script></pre>
1.Chadha	

2. C,h,a,d,h,a,S,o,f,t,w,a,r,e,T,e,c,h,n,o,l,o,g,i,e,s

3. **Chadha,Software,Technologies**

4. Chadha Software Technologies

What is the output of following JavaScript code?

```
<script type="text/javascript">
function x(z,t) {
alert(x.length); }</script>
```

1. Error 2. 1 3. **2** 4. 3

Which of the following object represents the HTML document loaded into a browser window?

- 1. **window**
- 2. document
- 3. image
- 4. form

You can refresh the web page in javascript by using method.

- 1. window.reload
- 2. **location.Reload**
- 3. window.Refresh
- 4. page.refresh

What is the correct JavaScript syntax to write "Hello World"

- 1. **document.write("Hello World")**
- 2. response.write("Hello World")
- 3. "Hello World"
- 4. ("Hello World")

What is the output of following JavaScript code

```
var cst = new Array();
cst[0] = "Web Development";
cst[1] = "Application Development"
cst[2] = "Testing"
cst[3] = "Chadha Software Technologies";
document.write(cst[0,1,2,3]);
```

1.Error 2.**Chadha Software Technologies** 3. Web Development

4.Web Developmnet,Application Development, Testing, Chadha Software Technologies

The postfix expression of the given infix expression $a+b*c+(d*e+f)*g$ is

- 1. **abc*+de*f+g*+**
- 2. ab+c*de*fg+*+
- 3. a+bc*de*f+g*+
- 4. abc+*def*+g*+

A _____ is often used if you want the user to verify or accept

- 1. Alert box
- 2. **Confirm box**
- 3. Dialog box

	4.Prompt box
A 20 Kbps satellite link has a propagation delay of 400 ms. The transmitter employs the "go backn ARQ" scheme with n set to 10. Assuming that each frame is 100 bytes long, what is the maximum data rate possible?	<p>1.5kbps 2.10kbps 3.15kbps 4.20kbps</p>
A network with CSMA/CD protocol in the MAC layer is running at 1 Gbps over a 1 km cable with no repeaters. The signal speed in the cable is 2×10^8 m/sec. The minimum frame size for this network should be	<p>1. 10000 bits 2. 10000 bytes 3. 5000 bits 4. 5000 bytes</p>
A subnet has been assigned a subnet mask of 255.255.255.192. What is the maximum number of hosts that can belong to this subnet?	<p>1.14 2.30 3.62 4.126</p>
Consider the following message M = 1010001101. The cyclic redundancy check (CRC) for this message using the divisor polynomial $x^5 + x^4 + x^2 + 1$ is :	<p>1.01110 2.01011 3.10101 4.10110</p>
Which of the following statements is FALSE regarding a bridge	<p>1.Bridge is a layer 2 device 2.Bridge reduces collision domain 3.Bridge is used to connect two or more LAN segments 4.Bridge reduces broadcast domain</p>
A relation R(A,B,C,D,E,H) has the following functional dependencies $F = \{A \rightarrow BC, CD \rightarrow E, E \rightarrow C, D \rightarrow AEH, ABH \rightarrow BD, DH \rightarrow BC\}$. Find the Normal form of the relation	<p>1.2NF 2.3NF 3.BCNF 4.1NF</p>
_____ is the want for a specific product backed by the ability to pay	<p>1.Supply 2.Want 3.Demand 4.Need</p>

_____ is the process of deciding how to fill the company's most important executive positions	1. Self-directed Teams 2. Corporate downsizing 3. Succession planning 4. Organizational Restructuring
_____ research deals with practical problems	1.Exploratory 2.Basic 3.Experimental 4.Applied
_____ are products bought for further processing or for use in conducting a business	1.Consumer products 2.Services 3.Industrial products 4.Specialty products
_____ refers to the number of units to be chosen from the population	1.Sampling frame 2.Sample size 3.Sampling plan 4.Sampling method
A banking product is an example of _____	1.Tangible product 2.Generic product 3.Potential product 4.Intangible product
A buying process starts when the buyer recognizes a _____	1.An advertisement of the product 2.Problem or need 3.A salesperson from a previous visit 4.Product
A current ratio of less than one means	1.Current Liabilities < Current Assets 2.Fixed Assets > Current Assets 3.Current Assets < Current Liabilities 4.Share Capital > Current Assets
A variable that is presumed to cause a change in another variable is called a/an _____	1.Categorical variable 2.Dependent variable 3.Intervening variable 4.Independent variable
A company is in the _____ stage of the new product development process when the company develops the concept into a commercially viable physical product	1.Marketing strategy 2.Commercialization 3.Business analysis 4.Product development

A personal account cannot be opened in _____	1.A scheduled bank 2.A co-operative bank 3.A private bank 4.The Reserve Bank of India
Actuary is a person who _____	1.Acts as an insurance agent 2.Computes the net liability of an insurance claim 3.Audits claims relating to insurance claims 4.Certifies the loss incurred by the insured
Budgetary control facilitates easy introduction of the _____	1.Ratio Analysis 2.Marginal costing 3.Innovation 4.Standard costing
Budgetary control system acts as a friend, philosopher and guide to the _____	1.Shareholders 2.Management 3.Employees 4.Creditors
Deceptive pricing is also referred to as _____	1.Superficial discounting 2.Confusing pricing 3.Odd-even pricing 4.Loss-leader pricing
Expand the acronym 'ADB'	1.Agrarian Development Bank 2.American Development Bank 3.Asian Development Bank 4.Asiatic Development Bank
Organizational democracy requires _____ style of management	1.Participative 2.Laissez-faire 3.Paternalistic 4.Autocratic
Plan of study of a researcher is called the _____	1.Research problem 2.Research design 3.Research procedure 4.Research method
Regional rural banks are:	1.Co-operative society 2.Body corporate created under a special statute 3.Public sector undertaking of Central Govt. 4.Companies created under Companies Act
Research questions are crucial because they will _____	1.prevent you from thinking about research strategies 2.help you to decide which research area interests you 3.guide your decisions about what data to collect and from where

	4.ensure that your findings have external validity
The banking companies that are allowed to operate in a very limited geographical area, are known as _____	1.Shell banks 2.Regional rural banks 3. Local area banks 4.Narrow banks
The best sample is one that is _____	1.Convenient 2.Purposefully selected 3.Systematic 4. Able to represent the population
The communication that is used by managers to assign goals, point out problems that need attention and provide job instructions is called as _____	1.Lateral communication 2. Downward communication 3.Upward communication 4.Informal communication
The portion of total deposits of a commercial bank which it has to keep with RBI in the form of cash reserves is termed as _____	1.Repo Rate 2. Cash Reserve Ratio 3.Bank Interest Rate 4.Statutory Liquidity Ratio
The promotion strategy that uses sales force to market the products is known as _____	1. Push strategy 2.Integrated Strategy 3.Blocking strategy 4.Pull strategy
The promotion “P” of marketing mix is also known as _____	1.Distribution 2.Marketing Communication 3.Cost 4. Product Differentiation
The schedule used to measure a respondent's opinion is _____	1.Document schedule 2. Interview schedule 3. Observation schedule 4. Rating schedule
The total cost that increases when the quantity produced is increased by one unit is called _____	1.Average cost 2.Fixed cost 3. Marginal Cost 4. Unit Cost
The unique characteristics that a learning organization possesses is that _____	1.It focuses on hiring new employees who are highly skilled 2.Employees are rewarded for being innovative 3. It has the ability to gather information and use it for improving work processes 4.Members learn to get to know each other more
What is data collection?	1.Reviewing the literature review 2.Collecting the research question and objectives together

	<p>3.Outlining how you will gather the information for your research question</p> <p>4.Gathering the information (data) which will help you address your research question</p>
Which behavioural science discipline contributes to Organizational Behavior's understanding of group decision-making processes?	<p>1.Political Science</p> <p>2.Sociology</p> <p>3.Anthropology</p> <p>4.Social psychology</p>
Which category of banks is under dual control of Government and RBI?	<p>1.Public banks</p> <p>2.Private banks</p> <p>3.Regional rural banks</p> <p>4.Cooperative banks</p>
Which of the following are generally the inventories of a service business?	<p>1.Purchased goods</p> <p>2.Finished goods inventories</p> <p>3.Raw material inventories</p> <p>4.Work in process inventories</p>
Which of the following groups of workers would be classified under indirect labour?	<p>1.Machinists in an organization manufacturing clothes</p> <p>2.Maintenance workers in a shoe and bag factory</p> <p>3.Assembly workers in a vehicle manufacturing business</p> <p>4.Bricklayers in a house building company</p>
Which of the following is not an activity listed in the statement of cash flows?	<p>1.Operating Activities</p> <p>2.Investing Activities</p> <p>3.Financing Activities</p> <p>4.Funding Activities</p>
Which of the following requires the listener to pay reasonably close attention to the speaker?	<p>1.Marginal listening</p> <p>2.Evaluative listening</p> <p>3.Emphatic listening</p> <p>4.Effective listening</p>
which of the following statements regarding RBI is not correct:	<p>1.Entire capital of RBI is held by Central Govt. & State Governments</p> <p>2.Central Government appoints the governor of RBI</p> <p>3.RBI has the authority to issue license to banks</p> <p>4.Central Government can issue directions to RBI under RBI Act, 1934</p>
Which of these does not belong to Maslow's Hierarchy Need Theory?	<p>1.Esteem</p> <p>2.Social</p> <p>3.Control</p> <p>4.Self-actualization</p>
Which of these is an off the job training?	<p>1.Coaching 2.Role play 3.Orientation program</p> <p>4.Job Enrichment</p>

Which of these is not a method of data collection?	1.Questionnaires 2. Experiments 3. Interviews 4. Observations
Which one of the following variables is not categorical?	1. Choice on a test item: true or false 2.Age of a person 3.Marital status of a person 4.Satisfaction scale of a product
Which type of managers takes less time to make their decisions and less information in making their choices?	1.Low risk-taking managers 2.High risk-taking managers 3.Efficient managers 4.Rational managers
Wholesaling does not include which of the following services?	1.Promotion 2.Selling 3.Distribution 4.Market research
Why is market segmentation primarily undertaken?	1.To achieve greater market share 2.To break down large markets into smaller markets 3.To surpass competitor 4.To group together customers with similar needs
“Doing an activity or behaviour voluntarily for its own sake, for the inherent satisfaction and pleasure derived from participation” well defines:	1.Conscientiousness 2.Intrinsic Motivation 3.Extrinsic Motivation 4.Machiavellianism
A method which creates the problem of secondary clustering is	1.Quadratic probing 2.Random probing 3.Seperate chaining 4.Double hashing
Time required to merge two sorted lists of size m and n, is	1. $O(m n)$ 2. $O(m + n)$ 3. $O(m\log n)$ 4. $O(n\log m)$
Which of the following asymptotic notation is the worst among all?	1. $O(n) + 9378$ 2. $O(n^3)$ 3. $n^O(1)$ 4. $2^O(n)$
. _____ is increasingly being used in server systems to improve performance by caching frequently used data, since it provides faster access than disk, with larger storage capacity than main memory.	1. Flash Memory 2.Disk 3.Main Memory 4.Secondary Memory

The output after second iteration of the sorting technique is given below. Identify the technique used 23 45 78 8 32 56	1.Insertion 2.Selection 3.Bubble 4.none
The runtime database processor of DBMS executes-----	1. Query statements only 2.The privileged commands,the executable query plans and the canned transactions 3.Privileged commands and Query statements 4.DML commands
For an algorithm whose step-count is $45n^3+34n$, choose the correct statement.	1.Complexity is $O(n^2)$ 2.Complexity is $\Omega(n)$ 3.Complexity is $\Theta(n^2)$ 4.All three.
For what value of c_1 and c_2 , the theta notation of $f(n)=5n^2+3n+2$ is n^2 ?	1.5,5 2.5,6 3.6,5 4.7,6
The max-heap for the array (4, 3, 1, 5, 9, 2, 8) is	1.9,8,5,4,3,2,1 2.9,5,8,4,3,2,1 3.1,5,8,4,3,2,9 4.1,8,5,4,3,2,9
Which of the following is termed as reverse polish notation?	1.Big-O notation 2. Little-Oh notation 3. Prefix notation 4.none
You are given pointers to first and last nodes of a singly linked list, which of the following operations are dependent on the length of the linked list?	
Consider a relation R (A, B, C, D, E) with set of functional dependencies $F = \{A \rightarrow BC, CD \rightarrow E, B \rightarrow D, E \rightarrow A\}$. Which of the following is one of the candidate keys of R?	1.ABC 2.B 3. ED 4.E
Which of the following is not a function of a DBA?	1.Table creation 2.Index creation 3.User creation 4.Application creation

<p>Assume relations R and S with the schemas R (A, B, C) and S (B, D). Which of the following is equivalent to $r \bowtie s$?</p>	<p>1. $\text{sr.B} = \text{s.B}$ ($r \bowtie s$) 2. $\tilde{\Omega}r.A, r.B, r.C, s.D$ ($\text{sr.B} = \text{s.B}$ ($r \times s$))) 3. $\tilde{\Omega}r.A, r.B, s.B, r.C, s.D$ ($\text{sr.B} = \text{s.B}$ ($r \times s$))) 4. $\tilde{\Omega}r.A, r.B, s.B, r.C, s.D$ ($\text{sr.B} = \text{s.B}$ ($r \bowtie s$)))</p>
<p>Assume that a table CUSTOMER has 10000 records. If the block size 1024 bytes and the record size is 80 bytes, how many records can be stored in each block to achieve maximum performance and how many blocks are required to store the entire table?</p>	<p>1. 12,834 2.13,833 3.24,834 4.23,833</p>
<p>Assume that a table R with 1000 records is to be joined with another table S with 10000 records. What is the maximum number of records that would result in if we join R with S and the equi-join attribute of S is the primary key?</p>	<p>1. 1,000 2.10,000 3.1,00,00,000 4.11,000</p>
<p>Consider a disk with following specification; sector size - 512 bytes, tracks per surface - 2000, sectors per track - 60, double-sided platters - 4, and average seek time - 20 msec. For a 5400 rpm hard disk for one revolution, if a single track of data can be transferred, then what is the transfer rate?</p>	<p>1. 2727 Kbytes/second 2.2020 Kbytes/second 3.5400 Kbytes/second 4.2048 Kbytes/second</p>
<p>Consider a relation R (A, B). If $A \rightarrow B$ is a trivial functional dependency and A is the super key for R, then what is the maximum normal form R can be in?</p>	<p>1.3NF 2.2NF 3. BCNF 4.1NF</p>
<p>Consider a relational table with the schema R (A, B, C). Assume that the cardinality of attribute A is 10, B is 20, and C is 5. What is the maximum number of records R can have without duplicate?</p>	<p>1.35 2.100 3. 1000 4.200</p>
<p>Given R = ABCDEFGH and set of functional dependencies F = {BH->C, BH->F, E->F, A->D, F->A, BH->E, C->E, F->D}, which of the following is redundant set of functional dependencies?</p>	<p>1. $BH \rightarrow C, F \rightarrow D, F \rightarrow A$ 2. $BH \rightarrow C, F \rightarrow D, BH \rightarrow E$ 3. $BH \rightarrow E, A \rightarrow D, F \rightarrow D$ 4. $BH \rightarrow C, A \rightarrow D, BH \rightarrow E$</p>

e conjunctive selection operation $\sigma_{\theta_1 \wedge \theta_2}(E)$ is equivalent to _____	1. $\sigma_{\theta_1}(E) \cup \sigma_{\theta_2}(E)$ 2. $\sigma_{\theta_1}(E) \cap \sigma_{\theta_2}(E)$ 3. <u>$\sigma_{\theta_1}(\sigma_{\theta_2}(E))$</u> 4. $\pi_{\theta_1}(E) \cup \pi_{\theta_2}(E)$																				
The data manipulation language used in SQL is a,	1. Procedural DML and non-Procedural DML 2. Modification DML and Declarative DML 3. Non-Procedural DML and Declarative DML 4. <u>Procedural DML and Declarative DML</u>																				
Which of the following concurrency control mechanisms insist unlocking of all read and write locks of transactions at the end of commit?	1. Strict 2 Phase Locking 2. Simple 2 Phase Locking 3. Timestamp ordering <u>4. Rigorous 2 Phase Locking</u>																				
Which of the following is a disadvantage of file processing system? (I) Efficiency of high level programming, (II) Data Isolation (III) Integrity issues (IV) Storing of records as files	1. Efficiency of high level programming, 2. Integrity issues <u>3. Data Isolation and Integrity issues</u> 4. Data Isolation and Storing of records as files																				
Which of the following operator in SQL would produce the following result if applied between two relations Employee and Department? <table border="1" data-bbox="187 1193 693 1499"> <thead> <tr> <th>Eno</th><th>ENam e</th><th>DeptN o</th><th>DNam e</th></tr> </thead> <tbody> <tr> <td>111</td><td>Kumar</td><td>100</td><td>Sales</td></tr> <tr> <td>222</td><td>Steve</td><td>200</td><td>Finance</td></tr> <tr> <td>Nul 1</td><td>Null</td><td>300</td><td>Admn</td></tr> <tr> <td>244</td><td>Meera</td><td>400</td><td>Mktg</td></tr> </tbody> </table>	Eno	ENam e	DeptN o	DNam e	111	Kumar	100	Sales	222	Steve	200	Finance	Nul 1	Null	300	Admn	244	Meera	400	Mktg	1. Natural Join <u>2. Outer Join</u> 3. Cartesian Join 4. Projection Join
Eno	ENam e	DeptN o	DNam e																		
111	Kumar	100	Sales																		
222	Steve	200	Finance																		
Nul 1	Null	300	Admn																		
244	Meera	400	Mktg																		
In SQL, relations can contain null values, and comparisons with null values are treated as unknown. Suppose all comparisons with a null value are treated as false. Which of the following pairs is not equivalent?	1. $x = 5$, not ($x = 5$) 2. $x = 5$, $x > 4$ and $x < 6$, where x is an integer 3. $x < 5$, not($x = 5$) 4. $x < 5$																				
Which of the following is two way list?	1. grounded header list 2. circular list																				

	<p>3.linked list with pointers to first and last nodes 4.none of the above <u>5. List traversed in two directions</u></p>
Which normal form is considered adequate for normal relational database design?	<p>1.2NF 2.5NF 3.4NF <u>4.3NF</u></p>
_____ users work on canned transactions	<p>1. casual <u>2. naïve</u> 3. DBA 4. sophisticated</p>
_____ is the most popular way of establishing an encrypted HTTP connection	<p>1.www 2.http:// <u>3.HTTPS</u> 4.HTTs</p>
_____, also known as "port forwarding," is the transmission of data intended for use only within a private, usually corporate network through a public network in such a way that the routing nodes in the public network are unaware that the transmission is part of a private network.	<p>1.Switching <u>2.Tunneling</u> 3.Gateway 4.Forwarding</p>
_____ cryptography refers to encryption methods in which both the sender and receiver share the same key.	<p>1.Ceaser key 2.Aizemetric key 3.Asymmetric <u>4.Symmetric</u></p>
_____ detects loss of data errors in data, requests retransmission of lost data, rearranges out-of-order data, and even helps minimize network congestion to reduce the occurrence of the other problems	<p>1.ICMP 2.IP 3.UDP <u>4.TCP</u></p>
_____ is a set of networks sharing the same routing policy	<p>1.Autonomous system 2.Subnets 3.Server Farm 4.Supernets</p>
_____ extracts the DML statements from a host language and passes to DML Compiler	<p>1.Sub Language compiler 2.Host Language compiler <u>3.Pre compiler</u> 4.Query Compiler</p>

_____ mechanism is used for converting a weak entity set into strong entity set in entity-relationship diagram	1.Generalization 2.Aggregation 3.Specialization <u>4.Adding suitable attributes</u>
_____ is the variable reward granted to employees as per their performance	1.Perks 2.Allowances 3.Incentives <u>4.Remuneration</u>
_____ is used by network devices, like routers, to send error messages indicating, for example, that a requested service is not available or that a host or router could not be reached.	1.BGP <u>2.ICMP</u> 3.IGP 4.RIP
A system of interlinked hypertext documents accessed via the Internet is known as	1.Internet 2.Intranet <u>3.World Wide Web</u> 4.Extranet
A 2 km long broadcast LAN has 10^7 bps bandwidth and uses CSMA/ CD. The signal travels along the wire at $2 * 10^8$ m/s. What is the minimum packet size that can be used on this network ?	1.50 bytes 2.100 bytes 3.150 bytes 4.200 bytes <u>5. 25 bytes</u>
A 4 KHz noise less channel with one sample every 125 sec is used to transmit digital signals. Differential PCM with 4 bit relative signal value is used. Then how many bits per second are actually sent?	<u>1.32 Kbps</u> 2.64 Kbps 3.8 Kbps 4.128 Kbps
A bill of exchange which is drawn on a specific bank and is not payable otherwise than on demand, to bearer or to order, is called _____	1.Usance bill of exchange 2.Inland bill of exchange <u>3.Cheque</u> 4.Accommodation bill
A binary search tree is generated by inserting in order the following integers 50, 15, 62, 5, 20, 58, 91, 3, 8, 37, 60, 24. The number of nodes in the left subtree and right subtree of the root respectively are	<u>1.(7, 4)</u> 2.(4, 7) 3.(8, 3) 4.(3, 8)

A binary search tree whose left subtree and right subtree differ in height by at most 1 unit is called	1.Binary Tree 2.Red Black tree 3.Expression tree <u>4.AVL tree</u>
A binary tree in which every non-leaf node has non-empty left and right subtrees is called a strictly binary tree. Such a tree with 10 leaves	1.cannot have more than 19 nodes <u>2.has exactly 19 nodes</u> 3.cannot have more than 17 nodes 4.has exactly 17 nodes
A bridge has access to which address of a station on the same network ?	1.Physical 2.Service access point <u>3.Network</u> 4.Transport
A change in an individual's behaviour prompted by information and experience refers to which one of the following concept?	1.Perception 2.Learning <u>3.Motivation</u> 4.Role selection
A circuit has seven inputs and one outputs based on three signals. Which component is suitable to realize this circuit?	1.demultiplexer 2.decoder <u>3.multiplexer</u> 4.encoder
A complex low pass signal has a bandwidth of 100kHz. What is the minimum sampling rate for this signal	1.100,000 <u>2.200,000</u> 3.400,000 4.800,000
A computer has a 256 KByte, 4-way set associative, write back data cache with block size of 32 Bytes. The processor sends 32 bit addresses to the cache controller. Each cache tag directory entry contains, in addition to address tag, 2 valid bits, 1 modified bit and 1 replacement bit. The number of bits in the tag field of an address is	1.11 2. 14 <u>3.16</u> 4. 27
A binary tree in which every non-leaf node has non-empty left and right subtrees is called a strictly binary tree. Such a tree with 10 leaves	1.cannot have more than 19 nodes <u>2.has exactly 19 nodes</u> 3.cannot have more than 17 nodes 4.has exactly 17 nodes
A processor that has carry, overflow and sign flag bits as part of its program status	1.1, 1, 0 <u>2.1, 0, 0</u>

<p>word (PSW) performs addition of the following two 2's complement numbers 01001101 and 11101001. After the execution of this addition operation, the status of the carry, overflow and sign flags, respectively will be:</p>	<p>3.0, 1, 0 4.1, 0, 1</p>
<p>A queue data structure can be used for</p>	<p>1.expression parsing 2.recursion 3.resource allocation 4.balancing symbols</p>
<p>A scheduling algorithm assigns priority proportional to the waiting time of a process. Every process starts with priority zero(the lowest priority). The scheduler re-evaluates the process priorities every T time units and decides the next process to schedule. Which one of the following is TRUE if the processes have no I/O operations and all arrive at time zero?</p>	<p>1.This algorithm is equivalent to the first-come-first-serve algorithm 2.This algorithm is equivalent to the shortest-job-first algorithm <u>3.This algorithm is equivalent to the round-robin algorithm</u> 4.This algorithm is equivalent to the shortest-remaining-time-first algorithm</p>
<p>A schema describes</p>	<p>1.data elements 2.records and files 3.record relationships <u>4.all of these</u></p>
<p>A sin wave has a frequency of 8 KHz. What is the period?</p>	<p><u>1.125μs</u> 2.100μs 3.45μs 4.130μs</p>
<p>A sort which relatively passes through a list to exchange the first element with any element less than it and then repeats with a new first element is called</p>	<p>1.Insertion sort 2.selection sort 3.heap sort <u>4.quick sort</u></p>
<p>A state that refers to the database when it is loaded is-----</p>	<p>1.valid state 2.instant <u>3.initial database state</u> 4.Schema</p>
<p>A station in a network forwards incoming packets by placing them on its shortest output queue. What routing algorithm is being used?</p>	<p><u>1.hot potato routing</u> 2.flooding 3.static routing 4.delta routing</p>

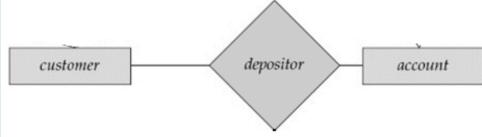
A subset of a network that includes all the routers but contains no loops is called:	1.spanning tree 2.Graph 3.Subnet 4.None of the Above
A transaction is permanently saved in the hard disk only after giving	1.Savepoint followed by Commit 2.Rollback followed by Commit 3.Update followed by Commit 4.Commit
A union that has no constructor can be initialized with another union of _____ type	1.same 2.different 3.virtual 4.class
A variable P is called pointer if	1.P contains the address of an element in data 2.P can store only memory addresses 3.P points the address of first element in data 4.P contain the data and the addresses of data
A variable whose size is determined at compile time and cannot be changed at run time is	1.not a variable 2.dynamic variable 3.static variable 4.none of these
A wireless network interface controller can work in	1.infrastructure mode 2.ad-hoc mode 3.both (a) and (b) 4.none of the mentioned
Acid test ratio should normally be _____	1. 1:1 2. 2:2 3. 1:2 4. 2:1
Action research means _____	1.A research initiated to solve an immediate problem 2.A longitudinal research 3.A research with socioeconomic objective 4.An applied research
AJAX has become very commonly used because	1.it allows pages to be interactive without further communication with the server. 2.XML is a close relative of HTML. 3.it avoids the need for JavaScript. 4.it allows page content to be updated without requiring a full page reload.
All factory costs are treated as _____ while all administration costs are treated as _____	1.Period Costs, Product costs 2.Product costs, Period costs 3.Period costs, Fixed costs 4.Fixed costs, Period costs

<p>Among the following ,which has the highest time complexity O(n²) in all the three cases.(Worst,average and best) and cannot be improved?</p>	<p>1.Insertion sort 2.Bubble sort <u>3.Selection sort</u> 4.Selection sort and Bubble sort</p>
<p>An area of a business which collects costs is known as _____</p>	<p>1.Cost unit 2.Branch 3.Profit centre 4.Cost centre</p>
<p>An 8KB direct-mapped write-back cache is organized as multiple blocks, each of size 32-bytes. The processor generates 32-bit addresses. The cache controller maintains the tag information for each cache block comprising of the following. 1 Valid bit 1 Modified bit As many bits as the minimum needed to identify the memory block mapped in the cache. What is the total size of memory needed at the cache controller to store meta-data (tags) for the cache?</p>	<p>1.4864 bits 2.6144 bits 3.6656 bits <u>4.5376 bits</u></p>
<p>An advantage of the database approach is</p>	<p>1.Ability to associate related data 2.Increase security 3. Elimination of the data redundancy <u>4.All of these</u></p>
<p>An Employee entity of a company database can be a SECRETARY, TECHNICIAN or MANAGER.</p> <p>What kind of participation constraint can be used for Employee and its job types?</p>	<p>1.Disjoint and partial 2.Disjoint and total 3.overlapping and partial 4.overlapping and total</p>
<p>An error-detecting code inserted as a field in a block of data to be transmitted is known as</p>	<p>1.Error detecting code <u>2.Frame check sequence</u> 3. Checksum 4. flow control</p>
<p>An identifier in C</p>	<p>1.can contain both upper case and lower case 2.is made up of letters, numerals and the underscore 3.is a name of a thing such as variable and function <u>4.all of these</u></p>
<p>An organization has a class B network and wishes to form subnets for 64 departments. The subnet mask would be</p>	<p>1.255.255.0.0 2.255.255.64.0 3.255.255.128.0 <u>4.255.255.252.0</u></p>

<p>Answer the following question based on the given table.</p> <table border="1" data-bbox="189 297 589 508"> <tr> <td>Package Name</td><td>Class Name</td></tr> <tr> <td>Lab.project.util</td><td>Date, Time</td></tr> <tr> <td>Lab.project.game</td><td>Car, Puzzle</td></tr> </table> <p>What will be the access modifier if a method in Date class is inherited in the Puzzle class?</p>	Package Name	Class Name	Lab.project.util	Date, Time	Lab.project.game	Car, Puzzle	<p>1.final 2.protected 3.private 4.default</p>
Package Name	Class Name						
Lab.project.util	Date, Time						
Lab.project.game	Car, Puzzle						
<p>ARP (Address Resolution Protocol) is</p>	<p><u>1.a TCP/IP protocol used to dynamically bind a high level IP Address to a low-level physical hardware address</u> 2.a TCP/IP high level protocol for transferring files from one machine to another 3.a protocol used to monitor computers 4.a protocol that handles error and control messages</p>						
<p>ARQ stands for</p>	<p>1.Automatic Repeat Quantization <u>2.Automatic Repeat Request</u> 3.Acknowledgement Repeat Request 4.Automatic Re-transmission Request</p>						
<p>Assume transaction A holds a shared lock R. If transaction B also requests for a shared lock on R.</p>	<p>1.It will result in a deadlock situation. <u>2.It will immediately be granted.</u> 3.It will immediately be rejected. 4.It will be granted as soon as it is released by A .</p>						
<p>AVL trees have a faster _____</p>	<p><u>1.Retrieval</u> 2.Updation 3.Insertion 4.Deletion</p>						
<p>Baud means?</p>	<p><u>1.The number of bits transmitted per unit time</u> 2.The number of bytes transmitted per unit time 3.The rate at which the signal changes 4.None of above</p>						
<p>Bayone-Neill-Concelman(BNC) connectors are used with which type of cables</p>	<p>1.UTP 2.STP <u>3.Coaxial cable</u> 4.Optical Cables</p>						
<p>Browsers typically render text wrapped in _____ tags as an indented paragraph.</p>	<p>1.p <u>2.pre</u> 3.blockquote 4.paragraph</p>						

Buffer stock' is the level of stock which is _____	1.At which the ordering process should start 2.Maximum stock at the inventory 3.Half of the actual stock 4.Minimum stock level below which actual stock should not fall
By default, any real number in C is treated as	1.a float 2.a double 3.depends upon memory model that is used 4.a long double
Can a system have multiple DMA controllers?	1. yes 2. no 3. only two 4. not more than five
Can any unsigned number be represented using one register in 64-bit processor	No 2. yes 3.signed number alone can be represented 4. Real numbers (positive and negative) can alone be represented
Can approximate values concept be used for processor cache operation?	1.yes 2. no 3. not for processor caches 4. not for caches but for main memory
Can floating point add/subtract operation be pipelined?	1. yes 2. no 3. maybe sometimes 4. if the range is between 100 and 1000
Centralized DBMS has-----	1. DBMS software, Application programs and user interface processing software. 2.DBMS server 3.UI processing software 4.Webserver
Changing the conceptual schema without having to change physical schema is	1.logical data independence 2.conceptual data independence 3.physical data independence 4.None of these
Computers use addressing mode techniques for _____.	1.Giving programming versatility to the user by providing facilities as pointers to memory counters for loop control 2.Specifying rules for modifying or interpreting address field of the instruction 3.To reduce no. of bits in the field of instruction 4.All the above
Consider a computer system with 40-bit virtual addressing and page size of sixteen kilobytes. If the computer system has a one-level page table per process and each page table entry requires 48 bits, then the	1.383 2.384 3.385 4.999

size of the per-process page table is _____ megabytes.	
Consider a 4-way set associative cache consisting of 128 lines with a line size of 64 words. The CPU generates a 20-bit address of a word in main memory. The number of bits in the TAG, LINE and WORD fields are respectively:	1.9,6,5 2.7,7,6 3.7,5,8 <u>4.9,5,6</u>
Consider a B+ tree in which the search Answer is 12 bytes long, block size is 1024 bytes, record pointer is 10 bytes long and block pointer is 8 bytes long. The maximum number of keys that can be accommodated in each non-leaf node of the tree is ____ .	1.40 <u>2.50</u> 3.60 4.70
Consider a directed line(->) from the relationship set advisor to both entity sets instructor and student. This indicates _____ cardinality	1.One to many <u>2.One to one</u> 3.Many to many 4.Many to one
Consider a processor with 64 registers and an instruction set of size twelve. Each instruction has five distinct fields, namely, opcode, two source register identifiers, one destination register identifier, and a twelve-bit immediate value. Each instruction must be stored in memory in a byte-aligned fashion. If a program has 100 instructions, the amount of memory (in bytes) consumed by the program text is _____	1.100 2.200 3.400 <u>4. 500</u>
Consider a schedule S1 given below; R1(A); W1(A); R2(B); R2(A); R1(B); W2(A+B); W1(B); where R1 and W1 are read and write operations of transaction T1 and R2 and W2 are read and write operations of transaction T2. Which of the following is correct regarding schedule S1?	1.S1 is a view serializable schedule 2.S1 is a serializable schedule 3.A deadlock will occur if 2PL is used 4.S1 is a conflict serializable schedule
Consider six memory partitions of sizes 200 KB, 400 KB, 600 KB, 500 KB, 300 KB and 250KB, where KB refers to kilobyte. These	<u>1.200KB and 300 KB</u> 2.200KB and 250 KB 3.250KB and 300 KB 4.300KB and 400 KB

<p>partitions need to be allotted to four processes of sizes 357 KB, 210KB, 468 KB and 491 KB in that order. If the best fit algorithm is used, which partitions are NOT allotted to any process?</p>													
<p>Consider the 3 process, P1, P2 and P3 shown in the table.</p> <table> <thead> <tr> <th>Process</th> <th>Arrival time</th> <th>Time units Required</th> </tr> </thead> <tbody> <tr> <td>P1</td> <td>0</td> <td>5</td> </tr> <tr> <td>P2</td> <td>1</td> <td>7</td> </tr> <tr> <td>P3</td> <td>3</td> <td>4</td> </tr> </tbody> </table> <p>The completion order of the 3 processes under the policies FCFS and RR2 (round robin scheduling) with CPU quantum of 2 time units are</p>	Process	Arrival time	Time units Required	P1	0	5	P2	1	7	P3	3	4	<p>1.FCFS: P1, P2, P3 RR2: P1, P2, P3 2.FCFS: P1, P3, P2 RR2: P1, P3, P2 3.FCFS: P1, P3, P2 RR2: P1, P2, P3 4.FCFS: P1, P2, P3 RR2: P1, P3, P2</p>
Process	Arrival time	Time units Required											
P1	0	5											
P2	1	7											
P3	3	4											
<p>Consider the entities customer (customer-name, customer-city, customer-street) and account(account-no,balance) with following relationship</p>  <p>If depositor is a one-to-many relationship from account to customer, then this ER diagram can be reduced to which of the following relational schemas?</p>	<p>1.Customer (customer-name, customer-street, customer-city, account-number) Account(account-number, balance, customer-name) Depositor (customer-name, account-number) 2.Customer (customer-name, customer-street, customer-city, account-number) Account(account-number, balance) 3.Customer (customer-name, customer-street, customer-city) Account(account-number, balance) Depositor (customer-name, account-number) 4.Customer (customer-name, customer-street, customer-city) Account(account-number, balance, customer-name)</p>												
<p>Consider the following C function.</p> <pre>int fun (int n) { int x=1, k; if (n ==1) return x; for (k=1; k < n; ++k) x = x + fun (k)* fun (n - k); return x; }</pre> <p>The return value of fun (5) is _____</p>	<p>1. 53 2. 42 3. 51 4. 52</p>												
<p>Consider the following C program</p> <pre>#include int main() int i, j, k;</pre>	<p>1. 43 2. 9 3. 2 4. 10</p>												

```

j=2*3/4+2.0 / 5+8 / 5;
k=--j;
for (i=0; i<5; i++)
{
Switch (i + k)
{
case1:
case 2 : printf ("\n%d", i+k)
case 3 : printf ("\n%d", i+k);
default : printf ("\n%d",i+k);
}
}
Return 0:
}
The number of times printf statement is
executed is _____.

```

Consider the following code snippet. What purpose does exec() solve in the above code ?

```

var pattern = /Java/g;

var text = "JavaScript is more fun than
Java!";

var result;

while ((result = pattern.exec(text)) != null)
{
    alert("Matched '" + result[0] + "' at
position " + result.index +"; next search
begins at " + pattern.lastIndex);
}

```

Consider the following four schedules due to three transactions (indicated by the subscript) using read and write on a data item x, denoted by r(x) and w(x) respectively. Which one of them is conflict serializable?

Consider the following pseudo code fragment:
printf ("Hello");
if(!fork())
printf("World");

1.Returns the same kind of array whether or not the regular expression has the global g flag.

- 2.Returns different arrays in the different turns of iterations
- 3.Both a and b
- 4.None of the mentioned

1.r1(x); r2(x); w1(x); r3(x); w2(x)

2.r2(x);r1(x);w2(x);r3(x);w1(x)

3.r2(x);w2(x);r3(x);r1(x);w1(x)

4.r3(x);r2(x);r1(x);w2(x);w1(x)

1.Hello Hello World World 2.Hello World World
3.Hello World Hello World 4.Hello World

Which of the following is the output of the code fragment?	
Consider the following schema as: Product_Master (prod_id, prod_name, rate) Purchase_details (prod_id, quantity, dept_no, purchase_date). Choose the suitable relational algebra expressionn for Get Product_id, Product_name & quantity for all purchased products.	1. $\pi_{prodid, prodname, quantity}(\sigma_{Product_Master.prodId = Purchase_Details.prodId}(Product_Master \times Purchase_Details))$ 2. $\pi_{prodid, prodname, quantity}(Product_Master \times Purchase_Details)$ 3. $\sigma_{prodid, prodname, quantity}(\sigma_{Product_Master.prodId = Purchase_Details.prodId}(Product_Master \times Purchase_Details))$ 4. $\sigma_{prodid, prodname, quantity}(\pi_{Product_Master.prodId = Purchase_Details.prodId}(Product_Master \times Purchase_Details))$
Consider the following statement containing regular expressions var text = "testing: 1, 2, 3"; var pattern = /\d+/g; In order to check if the pattern matches, the statement is	1.text == pattern 2. text.equals(pattern) 3.text.test(pattern) 4. <u>pattern.test(text)</u>
Consider this binary search tree: 14 / \br/>2 16 / \br/>5 / 4 Suppose we remove the root, replacing it with something from the left	<u>1.5</u> 2.1 3.4 4.2
Consider two cache organizations: The first one is 32 KB 2-way set associative with 32-byte block size. The second one is of the same size but direct mapped. The size of an address is 32 bits in both cases. A 2-to-1 multiplexer has a latency of 0.6 ns while a k bit comparator has a latency of $k/10$ ns. The hit latency of the set associative organization is h_1 while that of the direct mapped one is h_2 . The value of h_2 is:	1. <u>2.4ns</u> 2.2.3 ns 3.1.8 ns 4.1.7 ns
Course_Info{Course_no, Sec_no, Offering_dept, Credit_hours, Course_level,	1. <u>Course no, Sec no, Semester and Year</u> 2. <u>Course no</u>

<p>Instructor_ssn, Semester, Year, Days_hours, Room_no, No_of_students}. The Course_Info has following functional dependencies:</p> <p>$\{Course_no\} \rightarrow \{Offering_dept, Credit_hours, Course_level\}$</p> <p>$\{Course_no, Sec_no, Semester, Year\} \rightarrow \{Days_hours, Room_no, No_of_students, Instructor_ssn\}$</p> <p>$\{Room_no, Days_hours, Semester, Year\} \rightarrow \{Instructor_ssn, Course_no, Sec_no\}$</p> <p>Find the keys of the relation</p>	<p>3. Course_no and Sec_no 4. Semester and Year</p>
<p>Creating a B Tree index for your database has to be specified in ____.</p>	<p>1. TCL 2. SDL 3. VDL</p>
<p>CSMA (Carrier Sense Multiple Access) is</p>	<p>1.a method of determining which device has access to the transmission medium <u>at any time</u> <u>2.a method access control technique for multiple-access transmission media.</u> 3.a very common bit-oriented data link protocol issued by ISO. 4.network access standard for connecting stations to a circuit-switched network</p>
<p>Data independence means</p>	<p>1.data is defined separately and not included in programs. 2.programs are not dependent on the physical attributes of data 3. programs are not dependent on the logical attributes of data <u>4.programs are not dependent on both physical and logical attributes of data</u></p>
<p>Data link layer retransmits the damaged frames in most networks. If the probability of a frame's being damaged is p, what is the mean number of transmissions required to send a frame if acknowledgements are never lost.</p>	<p>1.P I (K + 1) 2.KIK (1 + F) <u>3.1 / (1 - F)</u> 4.K I (K - P)</p>
<p>Data link layer retransmits the damaged frames in most networks. If probability of a frame's being damaged is p, then what is the mean number of transmissions required to send a frame if acknowledgements are never lost ?</p>	<p>1.K / K - P <u>2.1 / K - P</u> 3. K / K(1 + p) 4.p / K + 1</p>

Data Model that provides ad-hoc queries is -----	1.Network 2. Hierarchical 3.Relational 4.Object Oriented
Data security threats include	1.hardware failure 2.fraudulent manipulation of data 3.privacy invasion 4.hardware failure all of these
Determine the output of the following code? <pre>#include using namespace std; void func_a(int *k) { *k += 20; } void func_b(int *x) { int m=*x,*n = &m; *n+=10; } int main() { int var = 25,*varp=&var; func_a(varp); *varp += 10; func_b(varp); cout<<var<<*varp; return 0; }</var<<*varp;</pre>	1.5555 2.5545 3.6565 4.4555
Determine the output of the following code? <pre>#include using namespace std; class one { int a; static int b; public: void initialize(); void print(); static void print_S(); }; int one::b = 0; void one::initialize()</pre>	1.1110 2.1111 3.1011 4.1010

```

{
a = 10;
b++;

}

void one::print()
{
cout<<a;
cout<<b;
}

void one::print_S()
{

cout<<b;
}

int main()
{
one o;
o.initialize();
o.print();
o.print_S();
return 0;
}
</b>;
</b>;
</a>

```

Difficult reconnection and fault isolation are disadvantages of

1. Star Topology
2. Mesh Topology
3. Ring Topology
4. **Bus Topology**

DMA is useful for the operations

1. **large and fast data transfers between memory and io devices**
2. small data transfers between memory and cache
3. slow and small data transfers between memory and io devices
4. fast and slow data transfers between memory and io devices

Dynamic web page

1. is same every time whenever it displays
2. **generates on demand by a program or a request from browser**
3. both (a) and (b)
4. None of the above

Each packet is routed independently in 	1.virtual circuit subnet 2.short circuit subnet 3. <u>datagram subnet</u> 4.ATM subnet
Elapsed time between an inquiry and a response is called.	1. Transit Time 2. Delay Time 3.Processing Time 4. <u>Response Time</u>
End-to-end connectivity is provided from host-to-host in:	1.Network layer 2.Data link layer <u>4.Transport layer</u>
Error control is needed at the transport layer because of potential errors occurring _____. 	1.from transmission line noise 2. <u>in routers</u> 3.from out-of-sequence delivery 4.from packet losses.
Error detection at the data link layer is achieved by?	1.Bit stuffing 2. <u>Cyclic redundancy codes</u> 3.Hamming codes 4.Equalization
Ethernet and Token-Ring are the two most commonly used network architectures in the world. Jim has heard of the different topologies for networks and wants to choose the architecture that will provide him with the most options. Which of the following would that be? Choose the most correct answer.	1.Token-Ring because it currently can run at both 4Mbps and 16Mbps. This means that it can be used in any topology 2.Ethernet, because it is cabled using fiber-optic cable 3.Token-Ring, because it uses a MAU 4. <u>Ethernet, because it can be set up with most topologies and can use multiple transfer speeds</u>
Find the time complexity of given code snippet <pre>for(int i=1;i<=n;i++) for(int j=1;j<=n;j*=2) Printf("*");</pre>	<u>1.O(nlogn)</u> 2.O(n^2) 3.O($n^2\log n$) 4.O(n)
Fixed budget is useless for comparison when the level of activity is _____	1.Fluctuates both ways 2.Increases 3.Constant 4.Decreases
For the given infix expression $a+b^c*(d-e)$ where '^' denotes the EX-OR operator, the corresponding prefix expression is	1.-+a^b*cde 2. <u>+a^bc-de</u> 3.^+ab*c-de 4.+-a^bc*de
For which one of the following reason: does Internet Protocol (IP) use the time-to-live	1. Ensure packets reach destination within that time 2. Discard packets that reach later than that time

(TTL) field in the IP datagram header?	3. <u>Prevent packets from looping indefinitely</u> 4.Limit the time for which a packet gets queued in intermediate routers
Four bits are used for packet sequence numbering in a sliding window protocol used in a computer network. What is the maximum window size?	1.4 2.8 3. <u>15</u> 4.16
Frames from one LAN can be transmitted to another LAN via the device	1.Router 2.Repeater 3.Modem 4. <u>Bridge</u>
Given four frames in main memory, the following is the content of the page table. Assuming the frames are fetched at time instant 3, 4, 1, 2 which frame will be replaced to place the page 46 using first in first out replacement algorithm? 23 34 10 4	1.Third frame starting from first 2.second frame starting from first 3.first frame starting from first 4.Last frame starting from first
Given the following structure template, choose the correct syntax for accessing the 5th subject marks of the 3rd student. struct stud { int marks[6]; char sname[20]; char rno[10]; } s[10];	1. stud[4].marks[2] 2. s[4].marks[2] 3. <u>s[2].marks[4]</u> 4. stud[2].marks[4]

Graph traversal is different from a tree traversal, because	1.trees are not connected. 2. <u>graphs may have loop</u> 3.trees have root 4. None is true as tree is a subset of graph.
Hamming code is a method of	1. <u>Error detection</u> 2.Error correction 3.Error encapsulation 4.Error manipulation
How do you create a new object in JavaScript?	1. <u>var obj={ };</u> 2.var obj=Object(); 3.var obj=new object(); 4.var obj = new obj();
How do you normalize any given binary fraction number with leading zero(es)	1.remove leading zero(es) 2.subtract from non-zero constant 3.add non-zero constant 4.cannot be done
How many 8-bit characters can be transmitted per second over a 9600 baud serial communication link using asynchronous mode of transmission with one start bit, eight data bits, and one parity bit ?	1.600 2. <u>800</u> 3.900 4.1200
How many 8-bit characters can be transmitted per second over a 9600 baud serial communication link using asynchronous mode of transmission with one start bit, eight data bits, two stop bits, and one parity bit?	1.600 2. <u>800</u> 3.1200 4.876
How many address bits are needed to select all memory locations in the $16K \times 1$ RAM?	1.12 bits 2.10 bits 3. <u>14 bits</u> 4.one bit
How many bits are present in registers A, B, C together in 8085?	1.6 2. <u>16</u> 3.24 4.32
How many flip-flops are present in register of sixteen bits?	1.32 2.8 3.16 <u>4.64</u>
How many gate delays are present in efficient implementation of XOR gate ?	1.three 2.two 3.one 4.five

How many modes are present in 8255 and what are they?	1.5, A to E 2.6, 0 to 5 3.4, 2 to 5 4.one , one
How many output lines are present in an encoder with 2^n input lines?	1. $n+1$ 2. $n-1$ 3.n 4. $2n$
How many phases are present in the simplest pipeline system?	1.Two 2.Three 3. Four 4.Seven
How many possible outcome values are present in boolean algebra?	1.one 2. two 3.three 4.none
How many swaps are required to sort the given array using bubble sort - { 2, 5, 1, 3, 4}	1.4 2.5 3.6 4.7
How many ways are present in 4-way set associative cache of 16 sets?	1.34 2.2 3.64 4. 32
How to find the index of a particular string?	1.position() 2.index() 3. indexOf() 4.None of the mentioned
HTTP code _____ indicates that the required resource could not be found.	1.400 2.401 3. 404 4.101
HTTP error messages, also called _____ are response codes given by Web-servers and help identify the cause of the problem.	1.HTTP recovery codes 2. HTTP status codes 3. HTTPs 4. HTTP fix
HTTP is _____ protocol	1.Network Layer 2.Transport layer 3. application layer 4.Session
Hypertext Transfer Protocol (HTTP) is _____ protocol.	1. connectionless 2.connection oriented 3.routing 4.node
Hypertext Transfer Protocol (HTTP) uses services of TCP on	1. well known port no. 80 2. well, known port no. 81 3. well, known port no. 8080 4. well, known port no. 82

Identify the item that is not taken into account in computing the current ratio	1. Stock 2. Bank overdraft 3. Cash balance 4. Bank balance
Identify the minimal key for relational scheme R(A, B, C, D, E) with functional dependencies $F = \{A \rightarrow B, B \rightarrow C, AC \rightarrow D\}$	1. A 2.AE 3.BE 4.CE
Changing the conceptual schema without having to change physical schema is	1.Indirect addressing mode 2.Immediate addressing mode 3.Direct addressing mode 4.Indexed addressing mode
Identify the data structure which allows deletions at both ends of the list but insertion at only one end	1.queue 2.priority queue 3.output restricted deque 4. input restricted deque
IEEE 802.11 is for	1.Ethernet 2.Tokenring 3.Token bus 4. WLAN
IEEE 802.5 is a _____	1. Token Ring 2. Ethernet 3. Token Bus 4. FDDI
If we can determine exactly those entities that will become members of each subclass by a condition then such subclasses are called-----	1. Predicate defined subclasses 2.Attribute defined subclasses 3.User defined subclasses 4.it is not a subclass type
If a disk has a seek time of 20ms, rotates 20 revolutions per second, has 100 words per block, and each track has capacity of 300 words. Then the total time required to access one block is	1.40 2.25 3. 60 4.30
If a hospital has to store the description of each visit of a patient according to date what attribute you will use in the patient entity type?	1. multi valued 2.Complex 3. Composite 4. weak entity
If a node having two children is deleted from a BST, it is replaced by its	1.Inorder predecessor 2.Inorder successor 3.Preorder successor 4.Preorder predecessor
If a pipeline has five stages, assuming each stage is one cycle, the earliest time to receive an output from an instruction	1.first cycle 2.fifth cycle 3.third cycle 4.never

without any forwarding (not nop) is after which cycle?	
If an AJAX request made using jQuery fails,	1.the browser will automatically report the problem with an alert message. 2.an error message will be displayed in the browser window content area. 3.the programmer should arrange for it to be reported using the jQuery .fail() method. 4.there is no way to notify the user.
If Human voice is required to be digitized what will be the bit rate at 16 bits per sample?	1.64 kbps 2.128 kbps 3.256 kbps 4.512 kbps
If link transmits 4000 frames per second, and each slot has 8 bits, the transmission rate of circuit this TDM is	1.32kbps 2.500kbps 3.1000kbps 4.32Mbps
If the element 12 has to be searched in the array (2,4,8,9,14,16, 18), using binary search, the result can be obtained within _____ comparisons.	1.2 2.3 3.4 4.no comparison made as '12' is not in the array.
If the opearand of stack operation is register, the stack contents in 8085 store which of the following?	1.content of register pair 2.content of one Register only 3.content of memory location 4.only stack contents
If the page size is 1024 bytes, what is the page number in decimal of the following virtual address 1110 1010010101	1.2 2.10 3.14 4.5
If two relations R and S are joined, then the non matching tuples of both R and S are ignored in	1.left outer join 2.right outer join 3.full outer join 4.inner join
If user A wants to send an encrypted message to user B. The plain text of A is encrypted with the _____.	1.Public Key of user A 2.Public Key of user B 3.Private Key of user A 4.Private Key of user B

<p>If you configure the TCP/IP address and other TCP/IP parameters manually, you can always verify the configuration through which of the following? Select the best answer.</p>	<p>1.Network Properties dialog box 2.Server Services dialog box 3.DHCPINFO command-line utility 4.Advanced Properties tab of TCP/ IP Info.</p>
<p>If a , b , c, d are four nodes connected in sequence in a doubly-linked list</p> <pre>Struct node *temp=a; Temp=temp->next; (Temp->next)->prev=temp->prev; (Temp->prev)->next=temp->next;</pre> <p>Which of the following is true?</p>	<p>1. 'c' is made the predecessor node for 'a' 2.b's predecessor is made to point to NULL. 3.'b' is the made the predecessor of node 'd' 4. 'a' is made the predecessor node for 'c'</p>
<p>In 8085 subtraction is performed using which method?</p>	<p>1.Direct subtraction using full subtractor 2.one's complement method 3.two's complement method 4.convert to decimal, perform the subtraction, convert the result to binary</p>
<p>In a E-R diagram, ellipses represent a</p>	<p>1.attributes 2.relationship among entity sets 3.entity sets 4.link between attributes and entity sets</p>
<p>In a k-way set associative cache, the cache is divided into v sets, each of which consists of k lines. The lines of a set are placed in sequence one after another. The lines in set s are sequenced before the lines in set (s+1). The main memory blocks are numbered 0 onwards. The main memory block numbered j must be mapped to any one of the cache lines from</p>	<p>1.(j mod v) * k to (j mod v) * k + (k-1) 2.(j mod v) to (j mod v) + (k-1) 3.(j mod k) to (j mod k) + (v-1) 4.(j mod k) * v to (j mod k) * v + (v-1)</p>
<p>In a min-heap</p>	<p>1.parent node has a value greater than its left and right child nodes 2.parent node has a value lesser than its left and right child nodes 3.parent node has a value greater than its left child node and lesser than its right child node 4.none</p>
<p>In a packet switching network, packets are routed from source to destination along a single path having two intermediate node. If the message size is 24 bytes and each</p>	<p>1.4 2.6 3.7 4.9</p>

packet contains a header of 3 bytes, then the optimum packet size is	
In a priority queue insertion and deletion takes place at	1.front, rear end 2.only rear end 3.only front end 4.at any position
In a token ring network the transmission speed is 10 bps and the propagation speed is 200 metres/ s μ . The 1-bit delay in this network is equivalent to;	1. 500 metres of cable 2.200 metres of cable 3.20 metres of cable 4.50 metres of cable
In communication satellite, multiple repeaters are known as?	1.Detectors 2.Modulators 3.Stations 4.Transponders
In cyclic redundancy checking, the divisor is _____ the CRC.	1.the same size as 2.one bit less than 3.one bit more than 4.two bits more
In Depth First Search, how many times a node is visited?	1.Once 2.Twice 3.Equivalent to number of outdegree of the node 4. Equivalent to number of indegree of the node
In ER- Relational Mapping, Binary 1:1 Relationship types are mapped to -----	1.The primary key of one side as foreign key of the other side and other attributes of the relationship as attributes to therelation 2.The primary keys of both sides as primary key of the relations 3.No changes required , relation is kept as such with associations 4.No new relation is created for relationship types
In Javascript, which of the following method is used to find out the character at a position in a string?	1.charPosition() 2.charAt() 3.CharacterAt() 4.CharAt()
In negative edge triggered flip flop, the transitions happen at	1.rising clock edge 2.falling clock edge 3.both rising and falling clock edge 4.never

In ORDBMS, When an object O is brought into memory, they check each oid contained in O and replace oids of in-memory objects by in-memory pointers to those objects. This concept refers to:	1.Object Identity 2.Pointer Swizzling 3.Method Caching 4.Pointer reference
In OSI model dialogue control and token management are responsibilities of ?	1.Network layer 2.Transport layer 3. Data link layer 4. Session Layer
In SQL, testing whether a subquery is empty is done using	1.DISTINCT 2.NULL 3.EXISTS 4.UNIQUE
In SQL, which command is used to issue multiple CREATE TABLE, CREATE VIEW and GRANT statements in a single transaction?	1. CREATE PACKAGE 2. CREATE SCHEMA 3. CREATE CLUSTER 4. all the above
In stop and wait ARQ, the sequence numbers are generated using	1.Modulo-2 arithmetic 2.Modulo-4 arithmetic 3.Modulo-8 arithmetic 4.Modulo-16 arithmetic
In TDM Data rate management is done by which of these strategies	1.Multilevel multiplexing 2.Multi-slot allocation 3.Pulse stuffing 4.all of the above
In the slow start phase of TCP congesting control algorithm, the size of the congestion window	1.Does not increase 2. Increases linearly 3. Increases quadratically 4. Increases exponentially
In transport layer, End to End delivery is the movement of data from	1.one station to the next station 2. one network to the other network 3.source to destination 4.one router to another router
In which part does the form validation should occur?	1.Client 2.Server 3.Both a and b 4. None of the mentioned
Information about a process is maintained in a _____.	1.Translation Lookaside Buffer 2.Stack 3.Process Control Block 4.Program Control Block
Insert into instructor values (10211, 'Smith', 'Biology', 66000); What type of statement is this ?	1.Query 2.DML 3.Relational 4DDL
int unknown(int n) {	1.O(n^2)

<pre> int i, j, k = 0; for (i = n/2; i <= n; i++) for (j = 2; j <= n; j = j * 2) k = k + n/2; return k; } </pre>	<p>2.0($n^{2\log n}$) 3.0(n^3) 4.0($n\log n$)</p>
<p>Integer division in a C program results in</p>	<p>1.truncation 2.overflow 3.none of these 4.rounding</p>
<p>Let R be a relation. Which of the following comments about the relation R are correct?</p>	<p>1.If R is in 3 NF and if its every key is simple then R is in 5 NF 2.If R is in BCNF and if R has at least one simple key, then R is in 4 NF. 3.If R is in 3 NF, and every key of R is simple, then R is in BCNF 4.R will necessarily have a composite key if R is in BCNF but not in 4 NF</p>
<p>Linked list are not suitable data structure of which one of the following problems ?</p>	<p>1.Insertion sort 2.Binary search 3.Radix sort 4.Polynomial manipulation</p>
<p>Linked lists are best suited</p>	<p>1. for relatively permanent collections of data 2. for the size of the structure and the data in the structure are constantly changing 3. for both of above situation 4. for none of above situation</p>
<p>List of all the units of the population is called _____</p>	<p>1.Sampling frame 2. Sampling size 3.Sampling demand 4.Sampling bias</p>
<p>Lock manager uses ----- to store the identify of transaction locking a data item, the data item, lock mode and pointer to the next data item locked.</p>	<p>1.Lock table 2.Database Schema 3.System Catalog 4.Transaction Schedule</p>
<p>Loss in signal power as light travels down the fiber is called?</p>	<p>1. Attenuation 2. Propagation 3. Scattering 4. Interruption</p>
<p>Mail services are available to network users through the _____ layer</p>	<p>1.Network 2.Datalink 3.Application 4.Session</p>

main() is an example of	1.statement 2.header 3.library function 4.user-defined function
Math. round(-20.5)=?	1.20 2.-20 3.21 4.-21
Memory mapped displays	1.stores the display data as individual bits 2.uses ordinary memory to store the display data in character form 3.are utilised for high resolution graphics such as maps 4.are associated with electromechanical teleprinters
Mnemonic codes and variable names are used in	1.All of these 2.a high-level language 3.a machine language 4.an assembly language
More than one transaction can apply this lock on X for reading its value but no write lock can be applied on X by any other transaction. What is that lock?	1.Exclusive 2.shared 3.read lock 4.none
Multiplexing is used in _____	1.Packet switching 2.Circuit switching 3.Data switching 4.Datagram switching
Nested documents in the HTML can be done using	1.frame 2.nest 3.iframe 4.into
Normalisation of database is used to	1.Eliminate redundancy 2.Improve security 3. Provide Database Tuning 4.None of the Above
One of the header fields in an IP datagram is the Time to Live (TTL) field. Which of the following statements best explains the need for this field?	1.It can be used to prioritize packets 2.It can be used to reduce delays 3.It can be used to optimize throughput 4.It can be used to prevent packet looping
OOPs Find the output of the following program? <pre>#include #define pow(x) (x)*(x)*(x) using namespace std; int main() { int a=3,b=3; a=pow(b++)/b++;</pre>	1.98 2.99 3.97 4.96

<pre>cout<<a<<b; return 0; }</a<<b;</pre>	
Parity bit is	<p>1.an error-detecting code based on a summation operation performed on the bits to be checked.</p> <p>2.a check bit appended to an array of binary digits to make the sum of all the binary digits.</p> <p>3.a code in which each expression conforms to specific rules of construction, so that if certain errors occur in an expression, the resulting expression will not conform to the rules of construction and thus the presence of the errors in detected</p> <p>4.the ratio of the number of data units in error to the total number of data units</p>
Port C of 8255 can function independently as	<p>1.input port 2.output port 3.either input or output ports</p> <p>4.both input and output ports</p>
Port number of DNS is	<p>1. 53</p> <p>2. 23</p> <p>3. 25</p> <p>4. 110</p>
Programs tend to make memory accesses that are in proximity of previous access this is called	<p>1.spatial locality</p> <p>2.temporal locality</p> <p>3.reference locality</p> <p>4.access locality</p>
PSW is saved in stack when there is a	<p>1.Interrupt recognized 2.Execution of RST instruction</p> <p>3.Execution of CALL instruction 4.All of these</p>
<pre>public class MyRunnable implements Runnable { public void run() { // some code here } }</pre>	<p>1.new Thread(MyRunnable).run();</p> <p>2.new Thread(new MyRunnable()).start();</p> <p>3.new Runnable(MyRunnable).start();</p> <p>4.new MyRunnable().start();</p>

which of these will create and start this thread?	
RAM type is justified as	1.SRAM is faster than DRAM 2.RAM consumes less power than DRAM3.SRAM values must be periodically refreshed 4.DRAM is used for cache memory
Re-balancing of AVL tree costs	1.O(1) 2. O(logn)b3. O(n) 4. O(n2)
Recursion uses more memory space than iteration because	1.it uses stack instead of queue. 2.every recursive call has to be stored. 3.both A & B are true. 4.None of the above are true.
Register renaming is done in pipe lined processors	1.as an alternative to register allocation at compile time 2.for efficient access to function parameters and local variables 3.to handle certain kinds of hazards 4.as part of address translation
Relations produced from an E-R model will always be	1.First normal form. 2.Second normal form. 3.Third normal form.4.Fourth normal form.
Rotation method of hashing is usually combined with other hashing techniques except	1.Modulo-division 2.Fold boundary 3.Fold shift 4.Mid-square hashing
Security and Privacy are less of an issue for devices in a _____ topology	1.Mesh 2. Tree 3. Bus 4.Star
Six channels, each with a 200 khz bandwidth are to be multiplexed together. what is the minimum bandwidth requirement if each guard band is 20Khz	1.1000 KHz 2.1100 KHz 3.1200 KHz 4.1300 KHz
Socket address is a combination of _____ and _____ addresses	1.IP and MAC 2.MAC and port 3.IP and port 4.mail and port
State the type of multitasking supported by OS when process switched its state from 'Running' to 'Ready' due to scheduling act.	1.multithreading 2.Preemptive 3.Non Preemptive 4.cooperative
Station A needs to send a message consisting of 9 packets to Station B using a	1.12 2.14

<p>siding window (window size 3) and go-back-n error control strategy. All packets are ready and immediately available for transmission. If every 5th packet that A transmits gets lost (but no acks from B ever get lost), then what is the number of packets that A will transmit for sending the message to B ?</p>	<p>3.18 4.20</p>
<p>Station A uses 32 byte packets to transmit messages to Station B using a sliding window protocol. The round trip delay between A and B is 80 milliseconds and the bottleneck bandwidth on the path between aA and B is 128 kbps. What is the optimal window size that A should use ?</p>	<p>1.20 2.30 3.40 4.160</p>
<p>Structured programming involves</p>	<p>1.localization of errors 2.decentralization of program activity 3.functional modularization 4.centralized processing</p>
<p>Suggest one alternative method to perform multiplication in the computer ALU?</p>	<p>1.Repeated addition 2.logarithms 3.exponential calculations 4.reciprocal of division</p>
<p>Suggest one alternative to binary multiplication</p>	<p>1.Change the radix 2.Division 3 .Trignometric functions 4. Hyperbolic functions</p>
<p>Suppose that everyone in a group of N people wants to communicate secretly with N-1 others using symmetric key cryptographic system. The communication between any two persons should not be decodable by the others in the group. The number of keys required in the system as a whole to satisfy the confidentiality requirement is</p>	<p>1. $N(N-1)/2$ 2. $N(N-1)$ 3. $2N$ 4. $(N-1)^2$</p>
<p>System catalogue is a system created database that describes</p>	<p>1.Database Objects 2. Data dictionary information 3.User access information 4.All of these</p>
<p>Television broadcast is an example of - transmission</p>	<p>1.Simplex 2.Half-duplex 3.Full-duplex 4.Automatic</p>

The maintenance department of a manufacturing company is a/ an _____	1.Investment center 2.Profit center 3.Cost center 4.Segment
The 1-address instructions for $a=b*c + d$ is	<p>1.push b push c mul push d add</p> <p>2.mul a, b, c add a, a, d 3.load b add d store a load c</p> <p>4.load b mul c add d store a</p>
The 8255 chip is an example of	1.Programmable peripheral interface 2.co-processor 3.substitute for 8085 processor 4.multimedia chip
The _____ is practiced most aggressively with unsought goods, goods that buyers normally do not think of buying, such as insurance, encyclopedias, and funeral plots.	1.Production concept 2.Product concept 3.Selling concept 4.Marketing concept
The address of a class B host is to be split into subnets with a 6-bit subnet number. What is the maximum number of subnets and the maximum number of hosts in each subnet?	1.62 subnets and 262142 hosts 2.64 subnets and 262142 hosts 3. 62 subnets and 1022 hosts 4.64 subnets and 1024 hosts
The address resolution protocol (ARP) is used for	1.Finding the IP address from the DNS 2. Finding the IP address of the default gateway 3. Finding the IP address that corresponds to a MAC address 4. Finding the MAC address that corresponds to an IP address
The address to the next instruction lies in	1.Program Counter 2.Instruction Register 3.Memory Buffer Register 4.Accumulator register

The addressing mode used in an instruction of the form ADD X Y, is ____.	1.Absolute 2.Indirect 3.None of these 4.Index
The algorithm design technique used in the quick sort algorithm is	1.Divide and Conquer 2.Backtracking 3.Dynamic Programming 4.Greedy Method
The alphahbet are represented in which format inside the computer?	1.ASCII format 2.binary number 3.hexadecimal number 4. decimal number
The base (or radix) of the number system such that the equation $312/20=13.1$ holds is	1.5 2.3 3.1 4.6
The best index for range query is	1.Bucket Hash 2.Quad tree 3.B Tree 4.Binary Tree
The best normal form of relation scheme R (A, B, C, D) along with the set of functional dependencies $F = \{AB \rightarrow C, AB \rightarrow D, C \rightarrow A, D \rightarrow B\}$ is	1.BCNF 2.3NF 3.2NF 4.1NF
The C++ language is	1.A context free language 2.A context sensitive language 3.A regular language 4.Parsable fully only by a Turing machine
The command which undo the transaction is	1.Rollback 2.Savepoint 3.Commit 4.Savepoint p
The concept of locking can be used to solve the problem of	1.lost update 2.inconsistent data 3.uncommitted dependency 4.deadlock
The daisy chaining priority gives least priority to which device?	1.The device accessed last in the chain 2.The first device in the chain 3.The device present at end of chain but inaccessible 4.The device in the middle of the chain
The data manipulation language (DML)	1.Refers to data using physical addresses 2.Cannot interfere with high-level programming language 3.None of these 4.Is used to define the physical characteristics of each record
The effective address of the following instruction is , MUL 5(R1,R2)	1.5+R1+R2 2. $5+(R1 \times R2)$ 3. $5+[R1]+[R2]$ 4. $5^*([R1]+[R2])$

The father of relational database system is	1.Pascal 2.C.J.Date 3.Dr.Edgar F. Cord 4.Non of these
The FD $A \rightarrow B$, $DB \rightarrow C$ implies	1.DA \rightarrow C 2. $A \rightarrow C$ 3. $B \rightarrow A$ 4. $DB \rightarrow A$
The function $f(x) = ab + a$ can be simplified as	1.ab 2. a 3. $a+b$ 4. $ab+bc$
The function scanf() reads	1.specifies the maximum value of a number 2.controls the size of type used to print numbers 3.controls the margins of the program listing 4.specifies how many character positions will be used for a number
The history property belongs to which object?	1. Element 2.Window 3.History 4.Location
The Hypertext Transfer Protocol (HTTP) is an _____ protocol	1.layer-2 2. layer-3 3.application level 4. physical level
The instructions which copy information from one location to another either in the processor's internal register set or in the external main memory are called	1.Data transfer instructions 2.Program control instructions 3 .Logical instructions 4.Input-output instructions
The Internet Control Message Protocol (ICMP)	1.allows gateways to send error control messages to other gateways or hosts 2.provides communication between the Internet Protocol Software on one machine and the Internet Protocol Software on another 3.reports error conditions to the original source, the source must relate errors to individual application programs and take action to correct the problem 4.All of the above
The interrupts are serviced using which of the following	1.Interrupt service subroutine 2.hardware circuits 3.microprocessor 4.gates
The jQuery AJAX methods .get(), .post(), and .ajax() all require which parameter to be supplied?	1. method 2. url 3. data 4. headers

The language used in application programs to request data from the DBMS is referred to as the	1.query language 2DDL 3.DML 4.all of these
The library function exit() causes an exit from	1.the function in which it occurs 2.the block in which it occurs 3.the loop in which it occurs 4.None of these
The lifetime of flash memory is -----	1.finite 2. infinite 3.5000 updations 4.one formatting
The main difference between synchronous and asynchronous transmission is	1.the clocking is derived from the data in synchronous transmission 2.the clocking is mixed with the data in asynchronous transmission 3.the pulse height is different. 4.the bandwidth required is different
The method that performs the search-and-replace operation to strings for pattern matching is	1. searchandreplace() 2. add() 3. edit() 4.replace()
The minimum number of JK flip-flops required to construct a synchronous counter with the count sequence (0,0,1,1,2,2,3,3,0,0,.....) is	1.4 2.3 3.1 4.2
The minimum number of page frames that must be allocated to a running process in a virtual memory environment is determined by	1.the instruction set architecture 2.page size 3.physical memory size 4.number of processes in memory
The number of bits to represent 128 sets in direct mapped cache is	1.6 2.7 3.4 4.2
The number of boolean functions in n-variables is	1.2^n 2.2^(2^n) 3.2^n 4.4
The number of distinct symbols in radix-r is	2.r-1 3.r+1 4.10
The number of inputs, minterms in full adder is	1. 3, 8 2.3, 6 3. 4, 8 4. 2, 4
The number of outputs in n-input decoder is	1. 2^n 2. 2^n 3. n 4. 4

The number of squares in K-map of n-variables is	1. 2^n 2. 2^{n+1} 3. 2^n 4. 2^{n+n}
The O notation in asymptotic evaluation represents	1.Best case 2.Average case 3.Worst case 4.tight bound
The output in sequential circuit depends on which of the following?	1.inputs only 2.logic zero 3.inputs and current state 4.current state only
The output of combinational circuit depends on	1.inputs only 2.inputs and previous states 3.previous states only 4.logic one only
The output of the following program is <pre>main() { int a = 5; int b = 10; cout << (a>b?a:b); }</pre>	1.a 2.Syntax error 3.0 4.b
The performance of cache memories is measured by	1.access time 2. hit ratio 3.average memory access time 4.miss penalty
The power consumed by full adder can be reduced by using which of the following?	1.Multiplexers 2.logic one 3.logic zero 4.adding another full adder circuit
The probability that a single bit will be in error on a typical public telephone line using 4800 bps modem is 10 to the power -3. If no error detection mechanism is used, the residual error rate for a communication line using 9-bit frames is approximately equal to	1.0.003 2.0.009 3.0.999 4.0.991
The process in which of the following states will be in secondary memory?	1.New, Wait/Block, suspend wait, Suspend ready 2.New, Ready, Wait/Block 3.wait/Block, suspend wait, Suspend ready 4.New, suspend wait, Suspend ready
The race condition in RS flip flop is rectified in which flip flop	1.D flip flop 2.T flip flop 3.JK flip flop 4.Master slave flip flop(ALSO APPLICABLE)

The recurrence relation that arises in relation with the complexity of binary search is	1. $T(n)=T(n/2)+K$ 2. $T(n)=2T(n/2)+K$ 3. $T(n)=T(n/2)+\log n$ 4. $T(n)=T(n/2)+n$
The regular expression to match any one character, not between the brackets is	1. [...] 2. [^] 3. [^...] 4. [\D]
The relationship that exists within the same entity type is called as _____ relationship.	1. recursive 2. logical 3. Identifying 4. physical
The removal of process from active contention of CPU and reintroduce them into memory later is known as _____.	1. Interrupt 2. Swapping 3. Signal 4. Thread
The searching technique that takes O (1) time to find a data is	1. Linear Search 2. Binary Search 3. Hashing 4. Tree Search
The SQL statement SELECT SUBSTR('123456789', INSTR('abcabcabc','b'), 4) FROM EMP; prints	1. 6789 2. 2345 3. 1234 4. 456789
The subset of super key is a candidate key under what condition ?	1. No proper subset is a super key 2. Each subset is a super key 3. Subset is a super key 4. All subsets are super keys
The term schema means:	1. the relationship service bureau 2. a map of overall structure of a database 3. a parent with no owners 4. two-dimensional table
The time factor when determining the efficiency of algorithm is measured by	1. Counting microseconds 2. Counting the number of key operations 3. Counting the number of statements 4. Counting the kilobytes of algorithm
The time required in worst case for search operation in binary tree is	1. O(1) 2. O(log n) 3. O(n) 4. O(log 2n)
The truth table XY f(X,Y) 0 0 0	1. AND logic 2. OR logic 3. NAND logic 4. XOR logic ANS: NONE

0 1 0 1 0 1 1 1 1 represents the Boolean function	
The two's complement of 101011 is	1.101011 2.0101011 3.010101 4.100001
The ways to accessing html elements in java script	1.document.getElementName.value 2. document.getElementById("fname").value 3.document.form.fname.value 4.document.forms.fname.value
The width of the physical address on a machine is 40 bits. The width of the tag field in a 512 KB 8-way set associative cache is _____ bits	1.24 2. 20 3. 30 4. 40
The '\$' present in the RegExp object is called a	1.character 2. matcher 3. metacharacter 4.metadata
The setTimeout() belongs to which object?	1. Element 2. Window 3. Location 4. None of the mentioned
This topology requires multipoint connection	1.star 2.Ring 3.Mesh 4. Bus
This user makes canned transaction	1.Casual 2. Naive 3.DBA 4.Sophisticated
To guarantee the detection of up to s errors in all cases, the minimum Hamming distance in a block code must be	1. s+1 2.2s+1 3.3s+1 4.s
To represent hierarchical relationship between elements, which data structure is suitable?	1.Deque 2.stack 3. tree 4.list
To retain all duplicate records, which of the following keyword is used	1. Union all 2.Union some 3.Intersect all 4.Intersect some
To which object does the location property belong?	1. Window 2.Position 3.Element 4. Location

<p>Trace the output of the following code?</p> <pre>#include using namespace std; int main() { int x=15,y=27; x = y++ + x++; y = ++y + ++x; cout<<x+y++<<++x+y; return 0; }</x+y++<<++x+y;</pre>	<p>1.118118 2.118117 3.117116 4.119119</p>
<p>Trigger is a</p>	<p>1.Statement that enables to start any DBMS 2.Condition the system tests for the validity of the database user3.Statement that is executed by the user when debugging an application program 4.Statement that is executed automatically by the system as a side effect of a modification to the database</p>
<p>Truncate is _____ command</p>	<p>1.DDL 2.DML 3.DDL and DML 4.TCL</p>
<p>Two computers C1 and C2 are configured as follows. C1 has IP address 203.197.2.53 and netmask 255.255.128.0. C2 has IP address 203.197.75.201 and netmask 255.255.192.0. Which one of the following statements is true?</p>	<p>1.C1 and C2 both assume they are on the same network 2.C2 assumes C1 is on same network, but C1 assumes C2 is on a different network 3.C1 assumes C2 is on same network, but C2 assumes C1 is on a different network 4. C1 and C2 both assume they are on different networks</p>
<p>Uniform Resource Locator (URL), is a standard for specifying any kind of information on the</p>	<p>1.Server 2.IP 3.Internet 4.Web Page</p>
<p>User Datagram Protocol adds no additional reliability mechanisms except one which is optional. Identify that.</p>	<p>1. Parity checking 2. Acknowledgement 3. Re-transmission 4. Checksum</p>
<p>Using public key cryptography, X adds a digital signature σ to message M, encrypts , and sends it to Y, where it is decrypted. Which one of the following sequences of keys is used for the operations?</p>	<p>1. Encryption: X's private key followed by Y's public key; Decryption: Y's private key followed by X's public key 2. Encryption: X's private key followed by Y's private key; Decryption: X's public key followed by Y's public key 3. Encryption: X's public key followed by Y's private key; Decryption: Y's public key followed by X's private key</p>

	4. Encryption: X's private key followed by Y's public key; Decryption: X's public key followed by Y's private key
Viruses are a network-issue	1.Performance 2.Reliability 3.Security 4.Management
We want to design a synchronous counter that counts the sequence 0-1-0-2-0-3 and then repeats. The minimum number of J-K flip-flops required to implement this counter is	1.1 2.2 3.3 4.4
What will be the value of c at the end of execution? <pre>public static void main(String args[]) { int a = 10, b = 2, c=0, d=0; int[] A = {1,2,3}; try { c=a/b; try { d = a/(a-a); d=A[1]+1; catch(ArrayIndexOutOfBoundsException e) { System.out.println("Array - unreachable element "+e); } Finally { System.out.println("Finally block inside "); } } catch(Exception e) { System.out.println("Some Problem:"+e); b = 1; c = a/b; } finally { System.out.println("Finally block outside") } System.out.println("after try/catch blocks"); System.out.println("Ans = " +c); }</pre>	1. 10 2. 5 3. 0 4. 1
What are the potential problems when a DBMS executes multiple transaction concurrently	1.the phantom problem 2.the unrepeatable problem 3.the dirty read problem 4.the lost update problem 5. All of the above

What are the three phases in virtual circuit switching?	1. Setup, data transfer, teardown 2.request-connect, data sending-acknowledgment, request-disconnect 3.send-connect, data transfer, request-disconnect 4.none of above
What data structure is used for depth first traversal of a graph	1.queue 2.Stack 3.list 4.graph
What does <code>/[^()]*</code> regular expression indicate ?	1.Match one or more characters that are not open parenthesis 2.Match zero or more characters that are open parenthesis 3.Match zero or more characters that are not open parenthesis 4.Match one or more characters that are open parenthesis
What does the code snippet given below do? <pre>void fun1(struct node *head) { if(head==NULL) return; fun1(head->next); printf("%d",head->data); }</pre>	1.Prints all nodes of linked lists 2.Prints all nodes of linked list in reverse order 3.Prints alternate nodes of Linked List 4.Prints alternate nodes in reverse order
What does the command XCHG in 8085 do?	1. Exchange AB with CD 2. Exchange A with B 3.Exchage D wtih E 4.Exchange H-L with D-E
What does the instruction INX H perform in 8085 microprocessor?	1.Increment register H by one 2.Increment register pair HL by one storing the result in same place 3.Increment register AH by one 4.Increment all registers by one
What does the location property represent?	1.Current DOM object 2.Current URL 3.Both a and b 4.None of the mentioned
What does the subexpression <code>/java(script)?/</code> result in ?	1. It matches “java” followed by the optional “script” 2.It matches “java” followed by any number of “script” 3.It matches “java” followed by a minimum of one “script” 4.None of the mentioned
What does the XMLHttpRequest object accomplish in Ajax?	1. It's the programming language used to develop Ajax applications. 2. It provides a means of exchanging structured data between the Web server and client.

	<p>3.It provides the ability to asynchronously exchange data between Web browsers and a Web server.</p> <p>4. It provides the ability to mark up and style the display of Web-page text.</p>
What happens to destination address in the header of a packet in a datagram network ?	<p>1.Updated by every switching device on the way.</p> <p>2.It remains same during the entire journey.</p> <p>3.same till the gateway of the parent network and updated by gateway for the internet</p> <p>4.none of these.</p>
What happens when a pointer is deleted twice?	<p>1.It cause an error 2.It cause a failure 3.It can abort the program</p> <p>4.It can cause a trap</p>
What is 8254 used for?	<p>1.programmable peripheral interface</p> <p>2.programmable interval timer</p> <p>3.coprocessor</p> <p>4.to solve numerical problems</p>
What is a trap?	<p>1.External interrupt 2.Internal Interrupt</p> <p>3.Software Interrupt 4.Error</p>
What is maximum throughput for slotted ALOHA ?	<p>1.0.386 when G=1/2</p> <p>2.0.386 when G=1</p> <p>3.0.038 when G=1</p> <p>4.0.038 when G=1/2</p>
What is the access point (AP) in wireless LAN?	<p>1.device that allows wireless devices to connect to a wired network</p> <p>2. wireless devices itself</p> <p>3.both (a) and (b)</p> <p>4.none of the mentioned</p>
what is the advantage of selection sort over other sorting techniques?	<p>1. It requires no additional storage space</p> <p>2.It is scalable</p> <p>3. It works best for inputs which are already sorted</p> <p>4.It is faster than any other sorting technique</p>
What is the architecture on which RISC systems are based?	<p>1.Jump 2.Exponential</p> <p>3.Load and Store 4.Add, Subtract</p>
What is the code to be used to trim whitespaces ?	<p>1.let trimmed = (l.trim() for (l in lines)); 2.let trimmed = (trim(l));3.let trimmed = l.trim(); 4.let trimmed = for(l in lines);</p>
What is the correct syntax for referring to an external script called " abc.js"	<p>1.script href=" abc.js" 2.script name=" abc.js"</p> <p>3.script src=" abc.js" 4.None of the above</p>

What is the data structure used for executing interrupt service subroutine ?	1. queue 2. array 3. stack 4. dummy variables
What is the difference between CSMA/CD and ALOHA?	1.frame transmission 2.Addition of persistence process 3.Jamming signal 4.All of the above
What is the JavaScript syntax to insert a comment that has more than one line?	1.//* comment */ 2.// comment 3.// comment //
What is the loopback address?	1.127.0.0.1 2.255.0.0.0 3.255.255.0.0 4.255.255.255.255.
What is the machine that uses zero address instructions called?	1.RISC machine 2.CISC machine 3.Vector processor 4.Stack machine
What is the minimum number of wires required for sending data over a serial communications links?	1.2 2.1 3.4 4. 3
What is the minimum size of ROM required to store the complete truth table of an 8-bit x 8-bit multiplier?	1.32 K x 16 bits 2.64 K x 16 bits 3.16 K x 32 bits 4.64 K x 32 bits
What is the most essential purpose of parentheses in regular expressions ?	1.Define pattern matching techniques 2.Define subpatterns within the complete pattern 3.Define portion of strings in the regular expression 4.All of the mentioned
What is the multiplexer used for?	1.To implement many to one function 2.To implement one to one function 3.To implement many to many function 4.To introduce delay
What is the number of distinct symbols in base-16 ?	1.8 2. 4 3. 6 4. 16
What is the number of maxterms in a function of n variables?	1.n 2.2 ⁿ 3.2^n 4. 2+n
What is the output of following JavaScript code	

```

<script type="text/javascript">
function x() {
var cst = "Chadha Software Technologies";
var pattern = /"SOFTWARE"/i;
document.write(cst.match(pattern)) ; }</script>

```

- 1.Error 2.true 3.false 4.**null**

What is the output of following JavaScript code

```

<script>
var cst = "PHPKB Knowledge Base Software";
var result =cst.substring(7,8);
document.write(result) ;</script>

```

- 1.n** 2.SOFTWARE 3.software 4.Error

What is the output of the following program?

```

#include
using namespace std;
int main()
{
int x=20;
if(!(!x)&&x)
cout<<x;
else
{
x=10;
cout<<x;
return 0;
}}</x;
</x;

```

1.20 2.10 3.1 4.0

What is the purpose of the assign() method?

1.Only loading **2.Loading of window and display**
3.Displays already present window 4.Unloading of window

What is the purpose of the mimeTypes property of a plug-in entry?

1.Contains MIME properties 2.Contains MIME sizes
3.Contains MIME types 4.None of the mentioned

What is the purpose of the PSH flag in the TCP header?

1.Typically used to indicate end of message
2.Typically used to indicate beginning of message
3.Typically used to push the message
4.Typically used to indicate stop of the message

What is the RDBMS technology for the number of attributes in a relation?	1.Degree 2. Relation 3. Attribute 4. cardinality
What is the RDBMS terminology for a row	1. Tuple 2. Relation 3.Attribute 4.Domain
What is the RDBMS terminology for a set of legal values that an attribute can have ?	1.Tuple 2.Relation 3.Entity 4. Domain
What is the result of the following code snippet? window.location === document.location	1. False 2. True 3.0 4.1
What is the result of the following operation Top (Push (S, X))	1. X 2. NULL 3. s 4. 0
What is the return type of the hash property?	1.Query string 2.Packets 3.String 4.Fragment identifier
What is the return value of f(p,p) if the value of p is initialized to 5 before the call? Note that the first parameter is passed by reference, whereas the second parameter is passed by value. int f (int &x, int c) { c=c-1; if (c<0) return 1; x=x+1; return f (x,c)*x;}	1.3024 2.6561 3.55440 4.161051
What is the time complexity of inserting a node in a doubly linked list?	1.O(nlogn) 2.O(logn) 3. O(n) 4.O(1)
What is the typical range of Ephemeral Ports?	1.1 to 80 2.1 to 1024 3.80 to 8080 4.1024 to 65535
What is Wired Equivalent Privacy (WEP) ?	1.security algorithm for ethernet 2.security algorithm for wireless networks 3.security algorithm for usb communication

	4.none of the mentioned
What sever support AJAX ?	1.SMTP 2.WWW 3.HTTP 4.BEEP
What should be used to point to a static class member?	1.Normal pointer 2.Smart pointer 3.None of the mentioned 4.Dynamic pointer
What statement is used to execute stored procedure in Java JDBC	1. Call method execute() on a CallableStatement object 2. Call method executeProcedure() on a Statement object 3. Call method execute() on a StoredProcedure object 4.Call method run() on a ProcedureCommand object
What type of join is needed when you wish to include rows that do not have matching values?	1.Equi-join 2.Natural join 3.Outer join 4.All of the mentioned
What will be printed as the output of the following program? <pre>public class testincr { public static void main(String args[]) { int i = 0; i = i++ + i; System.out.println(" i = " +i); } }</pre>	1. i = 0 2. i = 1 3. i = 2 4. i = 3
What will be the output of the following program? <pre>#include using namespace std; class x { public: int a; x(); }; x::x() { a=10; cout<</pre>	1.1010 2.2020 3.2010 4.1020

<pre>class b:public x { public: b(); }; b::b() { a=20; cout< int main () { b temp; return 0; }</pre>	
<p>What will be the result when non greedy repetition is used on the pattern /a+?b/ ?</p>	<p>1. Matches the letter b preceded by the fewest number of a's possible 2. Matches the letter b preceded by any number of a 3. Matches letter a preceded by letter b, in the stack order 4. None of the mentioned</p>
<p>What will be the values of x, m and n after the execution of the following statements?</p> <pre>int x, m, n; m = 10; n = 15; x = ++m + n++;</pre>	<p>1.x=27, m=11, n=16 2.x=26, m=11, n=16 3.x=27, m=10, n=15 4.x=25, m=10, n=15</p>
<p>What will happen if we call setTimeout() with a time of 0 ms?</p>	<p>1.Placed in stack 2.Placed in queue 3.Will run continuously 4.None of the mentioned</p>
<p>What would be the result of the following statement in JavaScript using regular expression methods ?</p>	<p>1.Returns ["123""456""789"] 2.Returns ["123","456","789"] 3.Returns [1,2,3,4,5,6,7,8,9] 4.Throws an exception</p>
<p>When a class extends the Thread class ,it should override method of Thread class to start that thread.</p>	<p>1.init() 2.run() 3.start() 4.go()</p>
<p>When a network interface has a failure in its circuitry, it sends a continuous stream of frames causing the Ethernet LAN to enter a Collapse state. This condition is known as _____.</p>	<p>1.Scattering 2.Blocking 3.Jabbering 4.Refreshing</p>

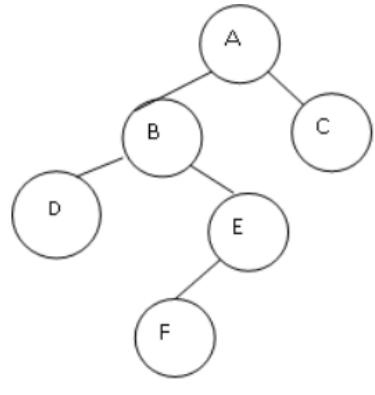
When a user views a page containing a JavaScript program, which machine actually executes the script?	1.The User's machine running a Web browser 2.The Web server 3.A central machine deep within Netscape's corporate offices 4.both client and server
When does the top value of stack changes?	1.Before Insertion 2.While checking underflow 3.At the time of deletion 4.After Deletion
When we use auto increment or auto decrement, which of the following is/are true 1) In both, the address is used to retrieve the operand and then the address gets altered. 2) In auto increment the operand is retrieved first and then the address altered. 3) Both of them can be used on general purpose registers as well as memory locations.	1.1,2,3 2.2 3.1,3 4.2,3
When you ping the loopback address, a packet is sent where?	1.On the network 2.Down through the layers of the IP architecture and then up the layers again 3.Across the wire 4.through the loopback dongle
Where does the swap space reside?	1.RAM 2. Disk 3. ROM 4. On-chip cache
Which method is used to assess an organization's training needs?	1.Rating scales 2.Questionnaireb3.Interviews 4.Considering current and projected changes
Which method is used to call the base class methods from the subclass?	1.extends 2.private 3.final 4. super
Which among the following is not a property of the Location object?	1. protocol 2.host 3.hostee 4.hostname
Which amongst the following refers to Absolute addressing mode	1.move R1, R2 2.move LOC1, LOC2 3.move LOC1, R2 4.move LOC2, R1

Which built-in method returns the length of the string?	1.length(); 2.size(); 3.index(); 4.None of the above
Which cause a compiler error?	1.int[] scores = {3, 5, 7}; 2.int [][] scores = {2,7,6}, {9,3,45}; 3.boolean results[] = new boolean [] {true, false, true}; 4.Integer results[] = {new Integer(3), new Integer(5), new Integer(8)};
Which circuit is used to perform address mapping in cache memories?	1.decoder 2.multiplexer 3.encoder 4.RAM
Which flip flop has the characteristic function Q(next) = input	1.JK flipflop 2.RS flipflop 3.D flipflop 4.all flipflops
Which flip flop is suitable to store any number?	1.JK flip flop 2.D flip flop 3.RS flip flop 4.T flip flop
Which function among the following lets to register a function to be invoked once?	1.setTimeout() 2.setTotaltime() 3.setInterval() 4.None of the mentioned
Which function among the following lets to register a function to be invoked repeatedly after a certain time?	1.setTimeout() 2.setTotaltime() 3.setInterval() 4.None of the mentioned
Which is the handler method used to invoke when uncaught JavaScript exceptions occur?	1.onhalt 2.onerror 3.Both a and b 4.None of the mentioned
Which is the method that removes the current document from the browsing history before loading the new document?	1.modify() 2.assign() 3.replace() 4.remove()
Which method is implemented in RAID 1?	1.Hamming code 2.distributed parity 3.mirroring 4.block parity

Which method is used for loading the driver in Java JDBC	1.getDriver() method 2.class.forName() 3.createStatement() 4.getConnection()
Which method receives the return value of setTimeout() to cancel future invocations?	1.clearTimeout() 2.clearInterval() 3.clearSchedule() 4.None of the mentioned
Which normal form is considered adequate for relational database design?	1.BCNF 2.4 NF 3.3 NF 4.2 NF
Which object serves as the global object at the top of the scope chain?	1.Hash 2.Property 3.Element 4.Window
Which of following property returns the window object generated by a frame object	1.window 2.contentWindow 3.contentDocument 4.windowFrame
Which of he following is used to input the entry and give the result in a variable in a procedure ?	1.Put and get 2. Get and put 3.Out and In 4.In and out
Which of the folloiwng is fully functional ?	1.NAND 2.AND, OR 3NOT 4. AND
Which of the following addressing modes has minimum number of memory access to access the operands? A. Indirect B. Direct C. Indexed D. Immediate	1. D 2. B 3. C 4. A
Which of the following algorithm is not stable?	1.Merge Sort 2.Quick Sort 3.Bubble Sort 4.Insertion Sort
Which of the following are the properties of a plug-in entry?	1.name 2.filename 3.mimeTypes 4.All of the mentioned

Which of the following assertions is false about the internet Protocol (IP) ?	1.It is possible for a computer to have multiple IP addresses 2.IP packets from the same source to the same destination can take different routes in the network 3. IP ensures that a packet is forwarded if it is unable to reach its destination within a given number of hops 4.The packet source cannot set the route of an outgoing packets; the route is determined only by the routing tables in the routers on the way.
Which of the following desired features are beyond the capability of relational algebra?	1.finding transitive closure 2.multiplication 3.aggregate computation 4.None of these
Which of the following devices assigns IP address to devices connected to a network that uses TCP/IP?	1. DHCP Server 2.NIC 3.Gateway 4.Hub
Which of the following digits are known as the sub-address digits (for use by the user) of the Network User Address (NUA)?	1.5-7 2.1-4 3.8-12 4.13-14
Which of the following events will cause a thread to die?	1.The method sleep() is called 2.The method wait() is called 3.Execution of the start() method ends 4.Execution of the run() method ends
Which of the following function of Array object calls a function for each element in the array?	1.concat(); 2.every(); 3.filter(); 4.forEach();
Which of the following gives a logical structure of the database graphically ?	1. Entity-relationship diagram 2.Entity diagram 3.Database diagram 4.Architectural representation
Which of the following is a bit rate of an 8-PSK signal having 2500 Hz bandwidth ?	1.2500 bps 2.5000 bps 3.7500 bps 4.20000 BPS
Which of the following is a Non-linear data structure	1.List 2.Priority queue 3.Linked list 4.Circular Queue

Which of the following is an advantage of using database systems?	1.Security Enforcement 2.Avoidance of Redundancy 3.Reduced Inconsistency 4.All of these
Which of the following is correct in CIDR?	1.Class A includes Class B network 2.There are only two networks 3.There are high and low class networks 4.There is no concept of Class A, B, C networks
Which of the following is DMA controller?	1.8085 2.8255 3.8257 4.8088
Which of the following is not a reason XML gained popularity as a data interchange format for AJAX?	1.It has been around a while and libraries exist for many languages to work with it 2.It can be navigated using JavaScript DOM methods. 3.It is extensible, allowing it to be adapted to virtually any application. 4.It is concise and simple to use.
Which of the following is not an application of priority queue?	1.Huffman codes 2.Interrupt handling in operating system 3.Undo operation in text editors 4.Bayesian spam filter
Which of the following is not an internetworking device?	1.Bridge 2.Gateway 3.Router 4Filter
Which of the following is not characteristics of a relational database model	1.Tables 2.Treelike structure 3.Complex logical relationships 4.Records
Which of the following is one of the fundamental features of JavaScript?	1.Single-threaded 2. Multi-threaded 3. Both a and b 4. None of the mentioned
Which of the following is the child object of the JavaScript navigator?	1.Navicat 2.Plugins 3.NetRight 4.None of the mentioned
Which of the following is the correct way for writing JavaScript array?	1.var salaries = new Array(1:39438, 2:39839 3:83729) 2.var salaries = new (Array1=39438, Array 2=39839 Array 3=83729) 3.var salaries = new Array(39438, 39839,83729) 4.var salaries = new Array() values = 39438, 39839 83729
Which of the following is true for the given tree?	1. a complete binary tree 2. Strict Binary tree

	<p>3. Full binary tree 4. none</p>
<p>Which of the following is useful in implementing quick sort?</p>	<p>1.Stack 2.Set 3.List 4.Queue</p>
<p>Which of the following raid levels provides maximum usable disk space?</p>	<p>1.RAID 1 2.RAID 0 3.RAID 5 4.RAID 6</p>
<p>Which of the following relational algebra operations do not require the participating tables to be union-compatible?</p>	<p>1.Union 2.Intersection 3.Difference 4.Join</p>
<p>Which of the following scan() statements is true?</p>	<p>1.sccanf(%d[],&int-var-name); 2.sccanf(%d &sum[]); 3.sccanf(%f[],float-var-name); 4.sccanf(%d[],&number);</p>
<p>Which of the following statement is correct about destructors?</p>	<p>1.A destructor has void return type. 2.A destructor has integer return type. 3.A destructors return type is always same as that of main() 4.A destructor has no return type.</p>
<p>Which of the following statement on the view concept in SQL is invalid?</p>	<p>1.All views are not updateable 2.The views may be referenced in an SQL statement whenever tables are referenced. 3.The views are instantiated at the time they are referenced and not when they are defined. 4.The definition of a view should not have GROUP BY clause in it.</p>
<p>Which of the following technique is used for fragment?</p>	<p>1.a technique used in best-effort delivery systems to avoid endlessly looping packets 2.a technique used by protocols in which a lower level protocol accepts a message from a higher level protocol and places it in the data portion of the low level frame</p>

	<p>3.one of the pieces that results when an IP gateway divides an IP datagram into smaller pieces for transmission across a network that cannot handle the original datagram size</p> <p>4.All of the above</p>
Which of the following technique is used for Time-To-Line (TTL)?	<p>1.a technique used in best-effort delivery system to avoid endlessly looping packets.</p> <p>2.a technique used by protocols in which a lower level protocol accepts a message from a higher level protocol and places it in the data portion of the low level frame</p> <p>3.One of the pieces that results when an IP gateway divides an IP datagram into smaller pieces for transmission across a network that cannot handle the original datagram size.</p> <p>4.All of the above</p>
Which of the following type casts will convert an Integer variable named amount to a Double type?	<p>1.int to double(amount) 2.int (amount) to double 3.(int to double) amount</p> <p>4.(double) amount</p>
Which of the process transition is invalid?	<p>1.Run->Terminate 2.Wait/ Block->Run</p> <p>3.Suspend wait->Suspend ready 4.Run->Ready</p>
Which of these is correct for synchronous Time Division Multiplexing	<p>1.Data rate of link is n times faster and the unit duration is n times longer</p> <p>2.Data rate of link is n times slower and the unit duration is n times shorter</p> <p>3.Data rate of link is n times slower and the unit duration is n times longer</p> <p>4.Data rate of link is n times faster and the unit duration is n times shorter</p>
Which of these is true for go-back-N protocol, if m is the size of sequence number field	<p>1.size of send window must be less than 2m and size of receiver window must be 1</p> <p>2.size of send window must be greater than 2m and size of receiver window must be 1</p> <p>3.size of send window must be less than 2m and size of receiver window must be 2m</p> <p>4.size of send window must be greater than 2m and size of receiver window must be 2m</p>
Which one is the first high level programming language	<p>1.C 2.COOL 3.FORTRAN 4.C++</p>
Which one of the following event is not possible in wireless LAN.	<p>1.collision detection</p> <p>2.Acknowledgement of data frames</p> <p>3.multi-mode data transmission</p> <p>4.none of the mentioned</p>

Which one of the following is not true?	1.A class containing abstract methods is called an abstract class. 2.Abstract methods should be implemented in the derived class. 3.An abstract class cannot have non-abstract methods. 4.A class must be qualified as 'abstract' class, if it contains one abstract method.
Which one of the following statements is false?	1.In JavaScript, identifier names are case sensitive 2.JavaScript code can appear in both and sections 3.External JavaScript file can be linked using the link element 4.JavaScript can be turned off by the users concerning of security
Which one of these lists contains only Java programming language keywords?	1.class, if, void, long, Int, continue 2.goto, instanceof, native, finally, default, throws 3.try, virtual, throw, final, volatile, transient 4.strictfp, constant, super, implements, do
Which one of these technologies is NOT used in AJAX?	1.CSS 2.DOM 3.DHTML 4.FLASH
Which property is used to check whether AJAX request has been completed.	1.open 2.ready 3.onreadystatechange 4.readyState
Which property is used to obtain browser vendor and version information?	1.modal 2.version 3.browser 4.navigator
Which protocol does Ping use?	1.TCP 2 ARP 3.ICMP 4.Bootp
Which relationship is used to represent a specialization entity ?	1.WHOIS 2.AIS 3.ONIS 4.ISA
Which statement about the name and id attributes of form fields is false?	1.the id attribute is what is sent when the form is submitted. 2.the name attribute can be used to access the field using getElementsByName(). 3.it is customary to give form fields both attributes, with the same value if possible 4.either attribute may be omitted if it is unused.

Which Topology features a point to point line configuration?	1.Mesh 2.Ring 3.Star 4.All three
Which two are valid constructors for Thread? a.) Thread(Runnable r, String name) b.) Thread() c.) Thread(int priority) d.) Thread(Runnable r, ThreadGroup g) e.) Thread(Runnable r, int priority)	1.a & b 2.a & c 3.d & e 4.b & c
Which two files are used during operation of the DBMS?	1.Query languages and utilities 2.Data dictionary and query language 3.DML and query language 4.Data dictionary and transaction log
Which two RAID types use parity for data protection?	1.RAID 1 2.RAID 4 3.RAID 1+0 4.RAID 5
which type of EM waves are used for unicast communication such as cellular telephones, satellite networks and wireless LANS.	1.Microwaves 2.Radiowaves 3.Infrared 4.Lightwaves
Which type of error detection uses binary division?	1.Parity 2. Longitudinal redundancy checking 3.Checksum checking 4.Cyclic redundancy checking
Which Web browser is the least optimized for Microsoft's version of AJAX?	1.Firefox 2. Opera 3.Safari 4.Internet Explorer
While booting the system the IP address is	1.1.1.1 2.1.1.0.0 3.0.0.1.1 4.0.0.0
Who is responsible for correlating the different perspectives of distinct users?	1. DBA 2. Database Designers 3.System Analysts 4. Application Programmers
Why is the replace() method better than the assign() method?	1.Reliable 2.Highly manageable 3.More efficient 4.Handles unconditional loading

Why we need to a binary tree which is height balanced?	1.to avoid formation of skew trees 2.to save memory 3. to attain faster memory access 4.to simplify storing
Working of the WAN generally involves	1.telephone lines 2.microwaves 3.satellites 4.All of the above
You are trying to decide which type of network you will use at your office, and you want the type that will provide communication and avoid collisions on the cable. Which of the following is the best choice?	1.Token-Ring 2.CSMA/CD 3.Ethernet 4.CSMA/CA
You are working with a network that has the network ID 172.16.0.0, and you require 25 subnets for your company and an additional 30 for the company that will merge with you within a month. Each network will contain approximately 600 nodes. What subnet mask should you assign?	1.255.255.192.0 2.255.255.224.0 3.255.255.248.0 4.255.255.252.0
You are working with a network that is 172.16.0.0 and would like to support 600 hosts per subnet. What subnet mask should you use?	1.255.255.192.0 2.255.255.224.0 3.255.255.252.0 4.255.255.248.0
You have 10 users plugged into a hub running 10Mbps half-duplex. There is a server connected to the switch running 10Mbps half-duplex as well. How much bandwidth does each host have to the server?	1.100 kbps 2. 10 kbps 3.1 Mbps 4.2 Mbps
You have an array of n elements. Suppose you implement quicksort by always choosing the central element of the array as the pivot. Then the tightest upper bound for the worst case performance is	1. O(n²) 2.O(nLogn) 3. $\Theta(nLogn)$ 4.O(n ³)
..... is very useful in situation when data have to stored and then retrieved in reverse order.	1. Stack 2. Queue 3. List 4.

	Linked list
--	-------------

ITE204-COMPUTER ARCHITECTURE AND ORGANIZATION
MCQ

1. The average time required to reach a storage location in memory and obtain its contents is called the
 - (A) seek time
 - (B) turnaround time
 - (C) access time
 - (D) transfer time

Answer : A

2. The idea of memory hierarchy is based
 - (A) on the property of locality of reference
 - (B) on the heuristic 90-10 rule
 - (C) on the fact that references generally tend to cluster
 - (D) all of the above

Answer : A

3. Write Through technique is used in which memory for updating the data
 - (A) Virtual memory
 - (B) Main memory
 - (C) Auxiliary memory
 - (D) Cache memory

Answer :D

4. what is the transfer rate for non random access memory?
 - a) $T_n = T_a + (N/R)$
 - b) $T_n = T_a - (N/R)$
 - c) $T_n = T_a * (N/R)$
 - d) none

answer : A

5. Memory unit accessed by content is called
 - (A) Read only memory
 - (B) Programmable Memory
 - (C) Virtual Memory
 - (D) Associative Memory

Answer :D

6. In a fixed point binary division algorithm, if E is equal to zero, what updation is done in Qn and A registers
 - a) $Q_n = 0, A = A + B$
 - b) $Q_n = 1, A = A - B$
 - c) $Q_n = \text{NULL}, A = A$
 - d) $Q_n = \text{NULL}, A = 0$

answer : A

7. How to calculate the total capacity of the internal memory?
 - a) Total memory= Number of words in memory * word length
 - b) Total memory= Number of words in memory / word length
 - c) Total memory= Number of words in memory - word length
 - d) number of words+ word length.

Answer: A

8. The performance of cache memory is frequently measured in terms of a quantity called
a) hit ratio b) miss ratio
c) average ratio d) ratio
- answer : A
9. The _____ that enables one to make a comparison of desired bit locations within a word for specific match and to do this for all words simultaneously .
a) Direct access b) indirect access
c) associative access d) random

answer : A

11. In DMA transfers, the required signals and addresses are given by the
a) Processor
b) Device drivers
c) DMA controllers
d) The program itself
- Answer: C
12. After the completion of the DMA transfer the processor is notified by
a) Acknowledge signal
b) Interrupt signal
c) WMFC signal
- answer :B
13. The technique whereby the DMA controller steals the access cycles of the processor to operate is called
a) Fast conning
b) Memory Con
c) Cycle stealing
d) Memory stealing

Answer:C

14. To overcome the conflict over the possession of the BUS we use _____
a) Optimizers
b) BUS arbitrators
c) Multiple BUS structure

Answer : B

15. Which one of these is characteristic of RAID 5?
a. Distributed parity
b. No Parity
c. All parity in a single disk
d. Double Parity

Answer : A

16. The Centralised BUS arbitration is similar to _____ interrupt circuit
- a) Priority
 - b) Parallel
 - c) Single
 - d) Daisy chain

Answer :D

17. Which of the following raid levels provides maximum usable disk space?
- a. RAID 1
 - b. RAID 0
 - c. RAID 5
 - d. RAID 6

Answer :B

18. An array of disks is more likely to fail compared to a single disk. How is it that RAID arrays still manage to provide more data protection compared to a single disk?
- a. Using either mirroring or striping
 - b. Using either mirroring or parity
 - c. Using better quality disks
 - d. Using dedicated hardware

Answer:B

19. Which level of RAID refers to disk mirroring with block striping?
- a) RAID level 1
 - b) RAID level 2
 - c) RAID level 0
 - d) RAID level 3

Answer:A

20. Which two RAID types use parity for data protection?
- a. RAID 1
 - b. RAID 4
 - c. RAID 1+0
 - d. RAID 5**

Answer: b,d

Comprehensive Examinations- Computer Architecture

1. Consider the following sequence of micro—operations

MBR \leftarrow PC
MAR \leftarrow X
PC \leftarrow Y
Memory \leftarrow MBR

Which one of the following is a possible operation performed by this sequence?

- (A) Instruction fetch (B) Operand fetch (C) Conditional branch (D) Initiation of interrupt service

ANSWER: D

2. The load instruction is mostly used to designate a transfer from memory to a processor register known as _____.

- A. Accumulator B. Instruction Register
C. Program counter D. Memory address Register

ANSWER: A

3. For computers based on three - address instruction formats, each address field can be used to specify which of the following:

- S1: A memory operand
S2: A processor register
S3: An implied accumulator registers

- (A) Either S1 or S2
(B) Either S2 or S3
(C) Only S2 and S3
(D) All of S1, S2 and S3

ANSWER: A

4. The addressing mode used in an instruction of the form ADD X Y, is _____.

- A. Absolute B. indirect
C. index D. none of these

ANSWER: C

5. The effective address of the following instruction is , MUL 5(R1,R2)

- a) $5+R1+R2$
b) $5+(R1 \times R2)$
c) $5+[R1]+[R2]$
d) $5*([R1]+[R2])$

ANSWER: C

6. When we use auto increment or auto decrement, which of the following is/are true

- 1) In both, the address is used to retrieve the operand and then the address gets altered.

- 2) In auto increment the operand is retrieved first and then the address altered.
3) Both of them can be used on general purpose registers as well as memory locations.

- a) 1,2,3
- b) 2
- c) 1,3
- d) 2,3

ANSWER: D

7. The load instruction is mostly used to designate a transfer from memory to a processor register known as_____.

- A. Accumulator B. Instruction Register
- C. Program counter D. Memory address Register

ANSWER: A

8. Logic X-OR operation of (4AC0)H & (B53F)H results _____.

- A. AACB B. 0000
- C. FFFF D. ABCD

ANSWER: C

9. Generally Dynamic RAM is used as main memory in a computer system as it_____.

- A. Consumes less power B. has higher speed
- C. has lower cell density D. needs refreshing circuitry

ANSWER: B

10. If the main memory is of 8K bytes and the cache memory is of 2K words. It uses associative mapping. Then each word of cache memory shall be_____.

- A. 11 bits B. 21 bits
- C. 16 bits D. 20 bits

ANSWER: C

11. A system uses 3 page frames for storing process pages in main memory. It uses the Least Recently Used (LRU) page replacement policy. Assume that all the page frames are initially empty. What is the total number of page faults that will occur while processing the page reference string given below?

4, 7, 6, 1, 7, 6, 1, 2, 7, 2

- A. 4
- B. 6
- C. 2
- D. 7

ANSWER: B

12. A computer has a 256 KByte, 4-way set associative, write back data cache with block size of 32 Bytes. The processor sends 32 bit addresses to the cache controller. Each cache tag directory entry contains, in addition to address tag, 2 valid bits, 1 modified bit and 1 replacement bit. The size of the cache tag directory is

- (A) 160 Kbits (B) 136 Kbits (C) 40 Kbits (D) 32 Kbits

ANSWER: A

13. Cache memory works on the principle of_____.

- A. Locality of data . Locality of memory
- C. Locality of reference D. Locality of reference & memory

ANSWER: C

14. When process requests for a DMA transfer ,

- a) Then the process is temporarily suspended
- b) The process continues execution
- c) Another process gets executed
- d) Both a and c

ANSWER: D

15. In DMA transfers, the required signals and addresses are given by the

- a) Processor
- b) Device drivers
- c) DMA controllers
- d) The program itself

ANSWER: C

16. From amongst the following given scenarios determine the right one to justify interrupt mode of data transfer

- i) Bulk transfer of several kilo-byte
 - ii) Moderately large data transfer of more than 1kb
 - iii) Short events like mouse action
 - iv) Keyboard inputs
- a) i and ii
 - b) ii
 - c) i,ii and iv
 - d) iv

ANSWER: D

17. Which one of the following is true with regard to a CPU having a single interrupt request line and single interrupt grant line...??

- i) Neither vectored nor multiple interrupting devices is possible.
 - ii) Vectored interrupts is not possible but multiple interrupting devices is possible.
 - iii) Vectored interrupts is possible and multiple interrupting devices is not possible.
 - iv) Both vectored and multiple interrupting devices is possible.
- a) iii
 - b) i,iv
 - c) ii,iii
 - d) iii,iv

ANSWER: A

18. What is the unique characteristic of RAID 6 (Choose one)?

- a. Distributed Parity
- b. Striping
- c. Two independent distributed parity
- d. Mirroring

ANSWER: C

19. Which of the following combinations can support RAID 05?

- a. 2 sets with 3 disks each
- b. 3 sets with 2 disks each
- c. 4 sets with 3 disks each
- d. 4 sets with 1 disk each

ANSWER: B AND C

20. The minimum duration of the active low interrupt pulse for being sensed without being lost must be

- a) greater than one machine cycle
- b) equal to one machine cycle
- c) greater than 2 machine cycles
- d) equal to 2 machine cycles

ANSWER: B

21. If two interrupts, of higher priority and lower priority occur simultaneously, then the service provided is for

- a) interrupt of lower priority
- b) interrupt of higher priority
- c) both the interrupts
- d) none of the mentioned

ANSWER: B

22. The data-in register of I/O port is

- a) read by host to get input
- b) read by controller to get input
- c) written by host to send output
- d) written by host to start a command

ANSWER: A

23. Which one of the following connects high-speed high-bandwidth device to memory subsystem and CPU.

- a) expansion bus
- b) PCI bus
- c) SCSI bus
- d) none of the mentioned

ANSWER: A

24. _____ register keeps track of the instructions stored in program stored in memory.

- (A) AR (Address Register)
- (B) XR (Index Register)
- (C) PC (Program Counter)
- (D) AC (Accumulator)

ANSWER: C

25. A group of bits that tell the computer to perform a specific operation is known as

- (A) Instruction code
- (B) Micro-operation
- (C) Accumulator
- (D) Register

ANSWER: A

26. In a computer architecture a BUS is _____

- A. A collection of computers
- B. A collection of wires
- C. A collection of shared communication wires
- D. A software to transport data

ANSWER: C

27. A RAM chip has a capacity of 1024 words of 8 bits each ($1K \times 8$). The number of 2×4 decoders with enable line needed to construct a $16K \times 16$ RAM from $1K \times 8$ RAM is

- A. 4
- B. 5
- C. 6
- D. 7

ANSWER: B

28. What is the minimum number of NAND gates required to implement a 2-input EXCLUSIVE-OR function without using any other logic gate?

- A. 3
- B. 4
- C. 5
- D. 6

ANSWER: B

29. What are the states of the Auxiliary Carry (AC) and Carry Flag (CF) after executing the following 8085 program? MVI H, 5DH; MIV L, 6BH; MOV A, H; ADD L

- A. AC=0 and CY=0

- B. AC=1 and CY=1
- C. AC=1 and CY=0
- D. AC=0 and CY=1

ANSWER: C

30. Which of the following statement is false?

- A. Virtual memory implements the translation of a program's address space into physical memory address space
- B. Virtual memory allows each program to exceed the size of the primary memory
- C. Virtual memory increases the degree of multiprogramming
- D. Virtual memory reduces the context switching overhead

ANSWER: A

31. How many 8-bit characters can be transmitted per second over a 9600 baud serial communication link using asynchronous mode of transmission with one start bit, eight data bits, two stop bits, and one parity bit?

- A. 600
- B. 800
- C. 876
- D. 1200

ANSWER: B

Comprehensive Examinations- Computer Architecture

1. Consider the following sequence of micro-operations

MBR \leftarrow PC
MAR \leftarrow X
PC \leftarrow Y
Memory \leftarrow MBR

Which one of the following is a possible operation performed by this sequence?

- (A) Instruction fetch
- (B) Operand fetch
- (C) Conditional branch
- (D) Initiation of interrupt service

ANSWER: D

2. The load instruction is mostly used to designate a transfer from memory to a processor register known as_____.

- A. Accumulator B. Instruction Register
C. Program counter D. Memory address Register
ANSWER: A

3. For computers based on three - address instruction formats, each address field can be used to specify which of the following:

- S1: A memory operand
S2: A processor register
S3: An implied accumulator registers

- (A) Either S1 or S2
(B) Either S2 or S3
(C) Only S2 and S3
(D) All of S1, S2 and S3

ANSWER: A

4. The addressing mode used in an instruction of the form ADD X Y, is ____.

- A. Absolute B. indirect
C. index D. none of these

ANSWER: C

5. The effective address of the following instruction is , MUL 5(R1,R2)

- a) $5+R1+R2$
b) $5+(R1 \cdot R2)$
c) $5+[R1]+[R2]$
d) $5 \cdot ([R1]+[R2])$

ANSWER: C

6. When we use auto increment or auto decrement, which of the following is/are true

- 1) In both, the address is used to retrieve the operand and then the address gets altered.
2) In auto increment the operand is retrieved first and then the address altered.
3) Both of them can be used on general purpose registers as well as memory locations.

- a) 1,2,3
b) 2
c) 1,3
d) 2,3

ANSWER: D

7. The load instruction is mostly used to designate a transfer from memory to a processor register known as ____.

- A. Accumulator B. Instruction Register
C. Program counter D. Memory address Register

ANSWER: A

8. Logic X-OR operation of (4AC0)H & (B53F)H results _____.
A. AACB B. 0000
C. FFFF D. ABCD

ANSWER: C

9. Generally Dynamic RAM is used as main memory in a computer system as it _____.
A. Consumes less power B. has higher speed
C. has lower cell density D. needs refreshing circuitry

ANSWER: B

10. If the main memory is of 8K bytes and the cache memory is of 2K words. It uses associative mapping. Then each word of cache memory shall be _____.
A. 11 bits B. 21 bits
C. 16 bits D. 20 bits

ANSWER: C

11. A system uses 3 page frames for storing process pages in main memory. It uses the Least Recently Used (LRU) page replacement policy. Assume that all the page frames are initially empty. What is the total number of page faults that will occur while processing the page reference string given below?

4, 7, 6, 1, 7, 6, 1, 2, 7, 2
A. 4 B. 6 C. 2 D. 7

ANSWER: B

12. A computer has a 256 KByte, 4-way set associative, write back data cache with block size of 32 Bytes. The processor sends 32 bit addresses to the cache controller. Each cache tag directory entry contains, in addition to address tag, 2 valid bits, 1 modified bit and 1 replacement bit. The size of the cache tag directory is
(A) 160 Kbits (B) 136 Kbits (C) 40 Kbits (D) 32 Kbits

ANSWER: A

13. Cache memory works on the principle of _____.
A. Locality of data . Locality of memory
C. Locality of reference D. Locality of reference & memory

ANSWER: C

14. When process requests for a DMA transfer ,
a) Then the process is temporarily suspended
b) The process continues execution
c) Another process gets executed
d) Both a and c

ANSWER: D

15. In DMA transfers, the required signals and addresses are given by the
- a) Processor
 - b) Device drivers
 - c) DMA controllers
 - d) The program itself

ANSWER: C

16. From amongst the following given scenarios determine the right one to justify interrupt mode of data transfer
- i) Bulk transfer of several kilo-byte
 - ii) Moderately large data transfer of more than 1kb
 - iii) Short events like mouse action
 - iv) Keyboard inputs
- a) i and ii
 - b) ii
 - c) i,ii and iv
 - d) iv

ANSWER: D

17. Which one of the following is true with regard to a CPU having a single interrupt request line and single interrupt grant line...??
- i) Neither vectored nor multiple interrupting devices is possible.
 - ii) Vectored interrupts is not possible but multiple interrupting devices is possible.
 - iii) Vectored interrupts is possible and multiple interrupting devices is not possible.
 - iv) Both vectored and multiple interrupting devices is possible.
- a) iii
 - b) i,iv
 - c) ii,iii
 - d) iii,iv

ANSWER: A

18. What is the unique characteristic of RAID 6 (Choose one)?
- a. Distributed Parity
 - b. Striping
 - c. Two independent distributed parity
 - d. Mirroring

ANSWER: C

19. Which of the following combinations can support RAID 05?
- a. 2 sets with 3 disks each
 - b. 3 sets with 2 disks each
 - c. 4 sets with 3 disks each
 - d. 4 sets with 1 disk each

ANSWER: B AND C

20. The minimum duration of the active low interrupt pulse for being sensed without being lost must be

- a) greater than one machine cycle
- b) equal to one machine cycle
- c) greater than 2 machine cycles
- d) equal to 2 machine cycles

ANSWER: B

21. If two interrupts, of higher priority and lower priority occur simultaneously, then the service provided is for

- a) interrupt of lower priority
- b) interrupt of higher priority
- c) both the interrupts
- d) none of the mentioned

ANSWER: B

22. The data-in register of I/O port is

- a) read by host to get input
- b) read by controller to get input
- c) written by host to send output
- d) written by host to start a command

ANSWER: A

23. Which one of the following connects high-speed high-bandwidth device to memory subsystem and CPU.

- a) expansion bus
- b) PCI bus
- c) SCSI bus
- d) none of the mentioned

ANSWER: A

24. _____ register keeps track of the instructions stored in program stored in memory.

- (A) AR (Address Register)
- (B) XR (Index Register)
- (C) PC (Program Counter)
- (D) AC (Accumulator)

ANSWER: C

25. A group of bits that tell the computer to perform a specific operation is known as

- (A) Instruction code
- (B) Micro-operation
- (C) Accumulator
- (D) Register

ANSWER: A

26.In a computer architecture a BUS is _____

- A. A collection of computers
- B. A collection of wires
- C. A collection of shared communication wires
- D. A software to transport data

ANSWER: C

27.A RAM chip has a capacity of 1024 words of 8 bits each ($1K \times 8$). The number of 2×4 decoders with enable line needed to construct a $16K \times 16$ RAM from $1K \times 8$ RAM is

- A. 4
- B. 5
- C. 6
- D. 7

ANSWER: B

28.What is the minimum number of NAND gates required to implement a 2-input EXCLUSIVE-OR function without using any other logic gate?

- A. 3
- B. 4
- C. 5
- D. 6

ANSWER: B

29.What are the states of the Auxiliary Carry (AC) and Carry Flag (CF) after executing the following 8085 program? MVI H, 5DH; MIV L, 6BH; MOV A, H; ADD L

- A. AC=0 and CY=0
- B. AC=1 and CY=1
- C. AC=1 and CY=0
- D. AC=0 and CY=1

ANSWER: C

30.Which of the following statement is false?

- A. Virtual memory implements the translation of a program's address space into physical memory address space
- B. Virtual memory allows each program to exceed the size of the primary memory
- C. Virtual memory increases the degree of multiprogramming
- D. Virtual memory reduces the context switching overhead

ANSWER: A

31. How many 8-bit characters can be transmitted per second over a 9600 baud serial communication link using asynchronous mode of transmission with one start bit, eight data bits, two stop bits, and one parity bit?

- A. 600
 - B. 800
 - C. 876
 - D. 1200

ANSWER: B

Course : Computer Architecture

Addressing modes

Ans: D

Ans: B

3. Computers use addressing mode techniques for _____.
(A) Giving programming versatility to the user by providing facilities as pointers

to memory counters for loop control

- (B) To reduce no. of bits in the field of instruction
- (C) Specifying rules for modifying or interpreting address field of the instruction
- (D) All the above

Ans: D

4. Which of the following address modes calculate the effective address as
address part of the instruction) + (content of CPU register)

- (A)** Direct Address Mode
- (B)** Indirect Address mode.
- (C)** Relative address Mode.
- (D)** Indexed address Mode.

Ans: C / D

5. A Program Counter contains a number 825 and address part of the instruction contains the number 24. The effective address in the relative address mode, when an instruction is read from the memory is

- (A)** 849.
- (B)** 850.
- (C)** 801.
- (D)** 802.

Ans: B

6. In which addressing mode the operand is given explicitly in the instruction

- (A)** Absolute.
- (B)** Immediate.
- (C)** Indirect.
- (D)** Direct.

Ans: B

7. Content of the program counter is added to the address part of the instruction in order to obtain the effective address is called.

- (A)** relative address mode.
- (B)** index addressing mode.
- (C)** register mode.
- (D)** implied mode.

Ans: A

8. Word 20 contains 40

Word 30 contains 50

Word 40 contains 60

Word 50 contains 70

Which of the following instructions does not, load 60 into the Accumulator

- (A) Load immediate 60
- (B) Load direct 30
- (C) Load indirect 20
- (D) both (A) & (C)

Ans: B

Von-Neumann architecture

9. Which of the following is not a part of instruction cycle?

- (A) Fetch phase
- (B) Decode phase
- (C) Wait Phase
- (D) Execute phase

Ans: C

10. After fetching the instruction from the memory, the binary code of the instruction goes to

- (A) Program counter.
- (B) Instruction registers.
- (C) Accumulator.
- (D) Instruction pointer.

Ans: B

11. What is the content of Stack Pointer (SP)?

- (A) Address of the current instruction
- (B) Address of the next instruction

- (C) Address of the top element of the stack
- (D) Size of the stack.

Ans: C

12. The address to the next instruction lies in

- | | |
|----------------------------|--------------------------|
| (A) Program Counter | (B) Instruction Register |
| (C) Memory Buffer Register | (D) Accumulator register |

Ans: A

13. _____ register keeps track of the instructions stored in program stored in memory.

- | | |
|---------------------------|-------------------------|
| (A) AR (Address Register) | (B) XR (Index Register) |
| (C) PC (Program Counter) | (D) AC (Accumulator) |

Ans: C

14. When an instruction is read from the memory, it is called

- (A) Memory Read cycle
- (B) Fetch cycle
- (C) Instruction cycle
- (D) Memory write cycle

Ans: B

15. What is the content of Stack Pointer (SP)?

- (A) Address of the current instruction
- (B) Address of the next instruction
- (C) Address of the top element of the stack
- (D) Size of the stack.

Ans: C

Instruction formats

16. The following segment of instructions belong to

ADD R1

MOV R1, R2

MUL R3

OUT 03H

(A) General Register Organization CPU

(B) Accumulator Type CPU

(C) Stack Type CPU

(D) information not sufficient to decide

Ans: A

17. A Stack-organized Computer uses instruction of

(A) Indirect addressing (B) Two-addressing

(C) Zero addressing (D) Index addressing

Ans: C

18. A group of bits that tell the computer to perform a specific operation is known as

(A) Instruction code (B) Micro-operation

(C) Accumulator (D) Register

Ans: A

19. MRI indicates

(A) Memory Reference Information.

(B) Memory Reference Instruction.

(C) Memory Registers Instruction.

(D) Memory Register information

Ans: B

20. Zero address instruction format is used for

- (A) RISC architecture.
- (B) CISC architecture.
- (C) Von-Neuman architecture.
- (D) Stack-organized architecture.

Ans: D

Instruction classifications

21. The load instruction is mostly used to designate a transfer from memory to a processor register known as

- (A) Accumulator
- (B) Instruction Register
- (C) Program counter
- (D) Memory address Register

Ans: A

22. The instructions which copy information from one location to another either in the processor's internal register set or in the external main memory are called

- (A) Data transfer instructions.
- (B) Program control instructions.
- (C) Input-output instructions.
- (D) Logical instructions.

Ans: A

Main memory

23. Generally Dynamic RAM is used as main memory in a computer system as it

- (A) Consumes less power
- (B) has higher speed
- (B) has lower cell density
- (D) needs refreshing circuitry

Ans:

24. Dynamic RAM consumes _____ Power and _____ than the Static RAM.

- (A)more, faster
- (B) more, slower

- (A) less, slower (D) less, faster

Ans.

25. Which of the memory holds the information when the Power Supply is switched off?

- (A) Static RAM (B) Dynamic RAM
(C) EEROM (D) None of the above

Ans.

26. Which of the memory holds the information when the Power Supply is switched off?

- A. Static RAM
B. Dynamic RAM
C. EEROM
D. None of the above

Ans:

27. Information is written to the ____ chips by the manufacturer and this information cannot be changed.

- A. SRAM
B. Shadow RAM
C. DRAM
D. ROM

Ans:

28. An ____ chip is a special ROM chip that the manufacturer can reprogram by using a special programming device that uses ultraviolet light.

- A. DDRAM
B. ROM
C. EPROM
D. VRAM

Ans:

29. You can update the software on the ____ by running a special software setup program provided by the manufacturer.

- A. EEPROM
B. POST
C. EPROM
D. BIOS

Ans:

30. What characteristic of RAM memory makes it not suitable for permanent storage?

- (A) too slow (B) unreliable
(C) it is volatile (D) too bulky

Ans:

31. The access method used for magnetic tape is_____

- a) Direct b) Random c) Sequential d) None of the above

Cache memory

32. Cache memory sits between

- (A) CPU and RAM (B) RAM and ROM
(D) CPU and Hard Disk (D) None of these

Ans:

33. The idea of cache memory is based

- (A) on the property of locality of reference
(B) on the heuristic 90-10 rule
(C) on the fact that references generally tend to cluster
(D) all of the above

Ans:

34. Write Through technique is used in which memory for updating the data

- (A) Virtual memory (C) Main memory
(B) Auxiliary memory (D) Cache memory

Ans:

35. What is called the configuration where when the CPU stores a data on the memory cache this data isn't immediately written to the RAM?

- A. Write Back
B. Write Through
C. Write Out
D. Write In

E. None of the above

Ans:

36. When the CPU needs a certain data and it is not loaded in the memory cache and the CPU needs to load this data directly from RAM we say that there was a:

- A. Transmission delay
- B. Rotational delay
- C. Cache hit
- D. Cache miss
- E. None of the above

Ans:

37. Which cache mapping function does not require a replacement algorithm?

- A. Direct mapping
- B. Set associative mapping
- C. Fully associative mapping

Ans:

38. Cache memory works on the principle of

- (A) Locality of data.
- (B) Locality of reference
- (C) Locality of memory
- (C) Locality of reference & memory

Ans.

39. Which of the following memories has the shortest access times?

- A. Cache memory
- B. Magnetic bubble memory
- C. Magnetic core memory
- D. RAM

Ans:

40. Which is the fastest cache mapping function?

- A. Direct mapping
- B. Set associative mapping
- C. Fully associative mapping

Ans:

41. The performance of cache memory is frequently measured in terms of a quantity called
- a. Miss ratio. **(B)** Hit ratio.
 - b. Latency ratio. **(D)** Read ratio.

Ans:

42. The method for updating the main memory as soon as a word is removed from the Cache is called
- A.** Write-through
 - B. write-back
 - C. protected write
 - D. cache-write

Ans:

43. How many different addresses are required by the memory that contain 16K words?
- (A)16,380 (B) 16,382
 - (C)16,384 (D) 16,386

Ans:

44. Which cache write mechanism allows an updated memory location in the cache to remain out of date in memory until the block containing the updated memory location is replaced in the cache?
- A.** Write through
 - B. Write back
 - C. Both
 - D. Neither

Ans:

Virtual memory

45. In a virtual memory system, the addresses used by the programmer belongs to
- (A) memory space. (C) physical addresses.
 - (B) address space. (D) main memory address.

Ans:

46. A page fault

- (A) Occurs when there is an error in a specific page.
- (B) Occurs when a program accesses a page of main memory.
- (C) Occurs when a program accesses a page not currently in main memory.
- (D) Occurs when a program accesses a page belonging to another program.

Ans:

I/O devices; I/O fundamentals, DMA

47. Which disk is one of the important I/O devices and its most commonly used as permanent storage devices in any processor:

- (A) Hard disk
- (B) Optical disk
- (C) Magneto disk
- (D) Magneto Optical disk

ANS:

48. A monitor consists of :

- (A) ARU
- (B) BRT
- (C) CRT
- (D) ARU

ANS:

49. LCD stands for:

- (A) Liquid crystal display
- (B) Liquid catalog display
- (C) Liquid crystal data
- (D) Liquid code display

ANS:

50. Printer is a:

- (A) Hardcopy
- (B) Softcopy
- (C) Both a & b
- (D) None of these

ANS:

51. _____ interface is an entity that controls data transfer from external device, main memory and or CPU registers:

- (A) I/O interface
- (B) CPU interface
- (C) Input interface
- (D) Output interface

ANS:

52. To resolve problems of I/O devices there is a special hardware component between CPU and _____ to supervise and synchronize all input output transfers:

- (A) Software
- (B) Hardware
- (C) Peripheral
- (D) None of these

ANS:

53. I/O modules are designed with aims to:

- (A) Achieve device independence
- (B) Handle errors
- (C) Speed up transfer of data
- (D) Handle deadlocks
- (E) Enable multi-user systems to use dedicated device
- (F) All of these

ANS:

54. In devices 2 status reporting signals are:

- (A) BUSY
- (B) READY
- (C) Both a & b
- (D) None of these

55. _____ is a single address space for storing both memory and I/O devices:

- (A) Memory-mapped I/O
- (B) Isolated I/O
- (C) Separate I/O
- (D) Optimum I/O

56. Following are the disadvantages of memory-mapped I/O are:

- (A) Valuable memory address space used up
- (B) I/O module register treated as memory addresses
- (C) Same machine intersection used to access both memory and I/O device
- (D) All of these

57. Two ways in which computer buses can communicate with memory in case of I/O devices by using:

- (A) Separate buses for memory and I/O device
- (B) Common bus for memory and I/O device
- (C) both a & b
- (D) none of these

58. There are 2 ways in which addressing can be done in memory and I/O device:

- (A) Isolated I/O
- (B) Memory-mapped I/O
- (C) Both a & b
- (D) None of these

59. I/O module must recognize a _____ address for each peripheral it controls:

- (A) Long
- (B) Same
- (C) Unique
- (D) Bigger

60. Each interaction b/w CPU and I/O module involves:

- (A) Bus arbitration
- (B) Bus revolution
- (C) Data bus
- (D) Control signals

61. Which are 4 types of commands received by an interface:

- (A) Control, status, data output, data input
- (B) Only data input
- (C) Control, flag, data output, address arbitration
- (D) Data input, data output, status bit, decoder

62. 2 control lines in I/O interface is:

- (A) RD, WR
- (B) RD,DATA
- (C) WR, DATA
- (D) RD, MEMORY

63. If CPU and I/O interface share a common bus than transfer of data b/w 2 units is said to be:

- (A) Synchronous
- (B) Asynchronous
- (C) Clock dependent

(D) Decoder independent

64. _____ is a single control line that informs destination unit that a valid is available on the bus:

- (E)** Strobe
- (F)** Handshaking
- (G)** Synchronous
- (H)** Asynchronous

65. What is disadvantage of strobe scheme:

- (E)** No surety that destination received data before source removes it
- (F)** Destination unit transfer without knowing whether source placed data on data bus
- (G)** Can't said
- (H)** Both a & b

66. In _____ technique has 1 or more control signal for acknowledgement that is used for intimation:

- (A)** Handshaking
- (B)** Strobe
- (C)** Both a & b
- (D)** None of these

67. Modes of transfer b/w computer and I/O device are:

- (A)** Programmed I/O
- (B)** Interrupt-initiated I/O
- (C)** DMA
- (D)** All of these

68. _____ operations are the results of I/O operations that are written in the computer program:

- (A)** Programmed I/O
- (B)** DMA
- (C)** Handshaking
- (D)** Strobe

69. _____ is a dedicated processor that combines interface unit and DMA as one unit:

- (A)** Input-Output Processor
- (B)** Only input processor
- (C)** Only output processor
- (D)** None of these

70. _____ is a special purpose dedicated processor that is designed specially designed for data transfer in network:

- (A) Data Processor
- (B) Data Communication Processor
- (C) DMA Processor
- (D) Interrupt Processor

71. _____ processor has to check continuously till device becomes ready for transferring the data:

- (A) Interrupt-initiated I/O
- (B) DMA
- (C) IOP
- (D) DCP

72. Interrupt-driven I/O data transfer technique is based on _____ concept:

- (A) On demand processing
- (B) Off demand processing
- (C) Both a & b
- (D) None of these

73. Which technique helps processor to run a program concurrently with I/O operations:

- (A) Interrupt driven I/O
- (B) DMA
- (C) IOP
- (D) DCP

Interrupts

74. PSW is saved in stack when there is a

- (A) Interrupt recognized
- (B) Execution of RST instruction
- (C) Execution of CALL instruction
- (D) All of these

Ans: A

75. When CPU is executing a Program that is part of the Operating System, it is said to be in

- (A) Interrupt mode (B) System mode
- (C) Half mode (D) Simplex mode

Ans: B

76. What is a trap?

- (A) External interrupt (B) Internal Interrupt.
(C) Software Interrupt (D) Error

Ans: B

77. 3 types of exceptions are:

- (A) Interrupts
(B) Traps
(C) System calls
(D) All of these

78. Which exception is also called software interrupt:

- (A) Interrupt
(B) System calls
(C) Traps
(D) All of these

79. User programs interact with I/O devices through:

- (A) Operating system
(B) Hardware
(C) Cpu
(D) Microprocessor

80. Which table handle store address of interrupt handling subroutine:

- (A) Interrupt vector table
(B) Vector table
(C) Symbol link table
(D) None of these

81. Which technique is used that identifies the highest priority resource by means of software:

- (A) Daisy chaining
(B) Polling
(C) Priority
(D) Chaining

82. _____ interrupt establishes a priority over the various sources to determine which request should be entertained first:

- (A) Priority interrupt
- (B) Polling
- (C) Daisy chaining
- (D) None of these

83. _____ method is used to establish priority by serially connecting all devices that request an interrupt:

- (A) Polling
- (B) Daisy chaining
- (C) Priority
- (D) None of these

84. In daisy chaining device 0 will pass signal only if it has:

- (A) Interrupt request
- (B) No interrupt request
- (C) Both a & b
- (D) None of these

85. VAD stands for:

- (A) Vector address
- (B) Symbol address
- (C) Link address
- (D) None of these

86. _____ interrupt method uses a register whose bits are set separately by interrupt signal for each device:

- (A) Parallel priority interrupt
- (B) Serial priority interrupt
- (C) Both a & b
- (D) None of these

87. _____ register is used whose purpose is to control status of each interrupt request in parallel priority interrupt:

- (A) Mass
- (B) Mark
- (C) Make
- (D) Mask

88. The ANDed output of bits of interrupt register and mask register are set as input of:

- (A) Priority decoder
- (B) Priority encoder
- (C) Priority decoder
- (D) Multiplexer

89. Which 2 output bits of priority encoder are the part of vector address for each interrupt source in parallel priority interrupt:

- (A) A0 and A1
- (B) A0 and A2
- (C) A0 and A3
- (D) A1 and A2

90. What is the purpose of A0 and A1 output bits of priority encoder in parallel priority:

- (A) Tell data bus which device is to entertained and stored in VAD
- (B) Tell subroutine which device is to entertained and stored in VAD
- (C) Tell subroutine which device is to entertained and stored in SAD
- (D) Tell program which device is to entertained and stored in VAD

91. When CPU invokes a subroutine it performs following functions:

- (A) Pushes updated PC content(return address) on stack
- (B) Loads PC with starting address of subroutine
- (C) Loads PC with starting address of ALU
- (D) Both a & b

92. Which two RAID types use parity for data protection?

- a. RAID 1
- b. RAID 4
- c. RAID 1+0
- d. RAID 5

93. 3. Which one of these is characteristic of RAID 5?

- a. Distributed parity
- b. No Parity
- c. All parity in a single disk
- d. Double Parity

94. 4. What is the unique characteristic of RAID 6 (Choose one)?

- a. Distributed Parity
- b. Striping
- c. Two independent distributed parity
- d. Mirroring

95. 5. Which of the following combinations can support RAID 05?

- a. 2 sets with 3 disks each
- b. 3 sets with 2 disks each

- c. 4 sets with 3 disks each
- d. 4 sets with 1 disk each

96. 6. What is the minimum number of disks required for RAID1?

- a. 1
- b. 2
- c. 4
- d. 5

97. Which of the following raid levels provides maximum usable disk space?

- a. RAID 1
- b. RAID 0
- c. RAID 5
- d. RAID 6

98. An array of disks is more likely to fail compared to a single disk. How is it that RAID arrays still manage to provide more data protection compared to a single disk?

- a. Using either mirroring or striping
- b. Using either mirroring or parity
- c. Using better quality disks
- d. Using dedicated hardware

Data Structures and Algorithms

1. In a min-heap:

A - parent nodes have values greater than or equal to their children

B - parent nodes have values less than or equal to their children

C - both statements are true

D - both statements are wrong

2 - Minimum number of moves required to solve a Tower of Hanoi puzzle is

A - $2 n^2$

B - $2^n - 1$

C - $2^n - 1$

D - $2n - 1$

3. Which of the following asymptotic notation is the worst among all?

A - $O(n + 9378)$

B - $O(n^3)$

C - $n^{0.1}$

D - $2^{O(n)}$

4. Maximum degree of any vertex in a simple graph of vertices n is

A - $2n - 1$

B - n

C - $n + 1$

D - $n - 1$

5. Which of the following algorithm is not stable?

A - Bubble Sort

B - Quick Sort

C - Merge Sort

D - Insertion Sort

6.Which of the following is example of in-place algorithm?

- A - Bubble Sort
- B - Merge Sort
- C - Insertion Sort
- D - All of the above

7.After each iteration in bubble sort

- A - at least one element is at its sorted position.
- B - one less comparison is made in the next iteration.
- C - Both A & B are true.
- D - Neither A or B are true

8. Time required to merge two sorted lists of size m and n, is

- A - $O(m|n)$
- B - $O(m + n)$
- C - $O(m\log n)$
- D - $O(n \log m)$

9.If queue is implemented using arrays, what would be the worst run time complexity of enqueue and dequeue operations?

- A - $O(n, O(n))$
- B - $O(n, O(1))$
- C - $O(1, O(n))$
- D - $O(1, O(1))$

10. What happens when you push a new node onto a stack?

- A. The new node is placed at the front of the linked list
- B. The new node is placed at the back of the linked list
- C. The new node is placed at the middle of the linked list
- D. No Changes happens

11. A queue in which insertion and deletion takes places from any position is called

A. circular queue

B. random of queue

C. priority

D. dequeue

12. In Binary trees nodes with no successor are called

A. End nodes

B. Terminal nodes

C. Final nodes

D. Last nodes

13. The depth of complete binary tree is given by

A. $D_n = n \log_2 n$

B. $D_n = n \log_2 n + 1$

C. $D_n = \log_2 n$

D. $D_n = \log_2 n + 1$

14. The post order traversal of binary tree is DEBFCA. Find out the pre order traversal.

A. ABFCDE

B. ADBFEC

C. ABDECF

D. ABDCEF

15. If every node u in G adjacent to every other node v in G, A graph is said to be

A. isolated

B. complete

C. finite

D. strongly connected

16. If CurrNode pointer points to the previous node in the list and NewNode points to the newly created Node, the address assignments to be done for inserting a node in the middle of a singly linked list is

- a. CurrNode->Next = NewNode; NewNode->Next = CurrNode->Next
- b. NewNode->Next = CurrNode->Next; CurrNode->Next = NewNode;
- c. CurrNode->Next = NewNode->Next; NewNode->Next = CurrNode;
- d. CurrNode = NewNode

17. Identify the sorting technique that supports divide and conquer strategy and has (n^2) complexity in worst case

- a. Insertion
- b. Shell
- c. Merge
- d. Quick

18. The run time of the following algorithm is

Procedure A(n)

```
If(n<=2) return(1)  
Else return(A(sqrt(n)))  
  
a)O(n)  
b) O(logn)  
c) O(loglogn)  
d) O(1)
```

19. For non-negative functions, $f(n)$ and $g(n)$, $f(n)$ is theta of $g(n)$ if and only if

- a. $f(n) = O(g(n))$ and $f(n) = \Omega(g(n))$
- b. $f(n) = O(g(n))$ and $f(n) = o(g(n))$
- c. $f(n) = O(g(n))$ and $f(n) = \omega(g(n))$
- d. $f(n) = Q(g(n))$ and $f(n) = \Omega(g(n))$

20. The degree of a leaf node is:

- a: 1
- b: 0

c: -1
d:2

Answers:

1. B
2. C
3. D
4. D
5. B
6. B
7. C
8. B
9. D
10. A
11. C
12. B
13. D
14. A
15. B
16. B
17. D
18. B
19. A
20. B

Data Structures and Algorithms

1. In a min-heap:

A - parent nodes have values greater than or equal to their children

B - parent nodes have values less than or equal to their children

C - both statements are true

D - both statements are wrong

2 - Minimum number of moves required to solve a Tower of Hanoi puzzle is

A - $2 n^2$

B - $2^n - 1$

C – $2^n - 1$

D - $2n - 1$

3. Which of the following asymptotic notation is the worst among all?

A - $O(n + 9378)$

B - $O(n^3)$

C – $n^{0.1}$

D – $2^{O(n)}$

4. Maximum degree of any vertex in a simple graph of vertices n is

A - $2n - 1$

B - n

C - $n + 1$

D - $n - 1$

5. Which of the following algorithm is not stable?

A - Bubble Sort

B - Quick Sort

C - Merge Sort

D - Insertion Sort

6. Which of the following is example of in-place algorithm?

A - Bubble Sort

B - Merge Sort

C - Insertion Sort

D - All of the above

7. After each iteration in bubble sort

A - at least one element is at its sorted position.

B - one less comparison is made in the next iteration.

C - Both A & B are true.

D - Neither A or B are true

8. Time required to merge two sorted lists of size m and n, is

A - $O(m \mid n)$

B - $O(m + n)$

C - $O(m \log n)$

D - $O(n \log m)$

9. If queue is implemented using arrays, what would be the worst run time complexity of enqueue and dequeue operations?

A - $O(n)$, $O(n)$

B - $O(n)$, $O(1)$

C - $O(1)$, $O(n)$

D - $O(1)$, $O(1)$

10. What happens when you push a new node onto a stack?

A. The new node is placed at the front of the linked list

B. The new node is placed at the back of the linked list

C. The new node is placed at the middle of the linked list

D. No Changes happens

11. A queue in which insertion and deletion takes places from any position is called

A. circular queue

B. random of queue

C. priority

D. dequeue

12. In Binary trees nodes with no successor are called

A. End nodes

B. Terminal nodes

C. Final nodes

D. Last nodes

13. The depth of complete binary tree is given by

A. $D_n = n \log_2 n$

B. $D_n = n \log_2 n + 1$

C. $D_n = \log_2 n$

D. $D_n = \log_2 n + 1$

14. The post order traversal of binary tree is DEBFCA. Find out the pre order traversal.

A. ABFCDE

B. ADBFEC

C. ABDECF

D. ABDCEF

15. If every node u in G adjacent to every other node v in G, A graph is said to be

A. isolated

B. complete

C. finite

D. strongly connected

16. If CurrNode pointer points to the previous node in the list and NewNode points to the newly created Node, the address assignments to be done for inserting a node in the middle of a singly linked list is

a. CurrNode->Next = NewNode; NewNode->Next = CurrNode->Next

b. NewNode->Next = CurrNode->Next; CurrNode->Next = NewNode;

c. CurrNode->Next = NewNode->Next; NewNode->Next = CurrNode;

d. CurrNode = NewNode

17. Identify the sorting technique that supports divide and conquer strategy and has (n^2) complexity in worst case

a. Insertion

b. Shell

c. Merge

d. Quick

18. The run time of the following algorithm is

Procedure A(n)

If($n \leq 2$) return(1)

Else return(A(sqrt(n)))

a) $O(n)$

b) $O(\log n)$

c) $O(\log \log n)$

d) $O(1)$

19. For non-negative functions, $f(n)$ and $g(n)$, $f(n)$ is theta of $g(n)$ if and only if

a. $f(n) = O(g(n))$ and $f(n) = \Omega(g(n))$

b. $f(n) = O(g(n))$ and $f(n) = o(g(n))$

c. $f(n) = O(g(n))$ and $f(n) = \omega(g(n))$

d. $f(n) = O(g(n))$ and $f(n) = \Omega(g(n))$

20. The degree of a leaf node is:

a: 1

b: 0

c: -1

d: 2

Answers:

1. B

2. C

3. D

4. D

5. B

6. B

7. C

8. B

9. D

10. A

11. C

12. B

13. D

14. A
15. B
16. B
17. D
18. B
19. A
20. B

Data Structures and Algorithms

1. Which among the following is not a linear data structure?
 - a) Graphs b) Linked lists c) Circular linked lists d) Arrays

Answer: A

2. For the given infix expression $a+b^c*(d-e)$ where ' $^$ ' denotes the EX-OR operator, the corresponding prefix expression is
 - a) $-+a^b*cde$ b) $+a^bc-de$ c) $^+ab*c-de$ d) $+a^bc*de$

Answer : C

3. Which of the following is termed as reverse polish notation?
 - a) Big-O notation b) Little-Oh notation c) Prefix notation d) Postfix Notation

Answer: D

4. What does the code snippet given below do?

```
void fun1(struct node* head)
{
    if(head == NULL)
        return;

    fun1(head->next);
    printf("%d ", head->data);
}
```

- a) Prints all nodes of linked lists
- b) Prints all nodes of linked list in reverse order
- c) Prints alternate nodes of Linked List
- d) Prints alternate nodes in reverse order

Answer: B

5. Given the following structure template, choose the correct syntax for accessing the 5th subject marks of the 3rd student.

struct stud

```
{  
    int marks[6];  
    char sname[20];  
    char rno[10];  
}s[10];
```

- a) stud[2].marks[4] b) stud[4].marks[2] c) s[2].marks[4] d) s[4].marks[2]

Answer: C

6. What is the postfix expression for the following infix expression?

Infix = a+b%c>d

- a) abcd>%+ b) abc%d>+ c) ab+c%d> d) abc%+d>

Answer: D

7. Among the following which is not the application of a stack?

- a) Postponing data usage b) Job scheduling c) Backtracking d) none

Answer: B

8. Which of the following is not correct to create an integer array of size 20?

- a) int *a= (int*) malloc(20*sizeof(int));
- b) int *a= (int*) malloc(80);
- c) int x; int *a= (int*) malloc(20*sizeof(x));
- d) All are correct

Answer: D

9. If a , b , c, are three nodes connected in sequence in a singly linked list

```
struct node *temp=a;
```

```
while(temp!=NULL)
```

```
{
```

```
    temp=temp->next; printf( "$");
```

```
}Assuming 'c' to be the last node, the output is
```

- a) \$\$\$ b) \$\$ c) NULL d) error

Answer: A

10. You are given pointers to first and last nodes of a singly linked list, which of the following operations are dependent on the length of the linked list?
- a) Delete the first element
 - b) Insert a new element as a first element
 - c) Delete the last element of the list
 - d) Add a new element at the end of the list

Answer: C

11. On adopting shell sort technique, the output of the array (21,62,14,9,30,77,80,25) after a pass with increment size =3, is
- a) 9 30 14 21 25 77 80 62
 - b) 9 25 14 21 30 77 80 62
 - c) 9 14 21 25 30 62 77 80
 - d) the same array

Answer: B

12. Consider a dynamic queue with two pointers: front and rear. What is the time needed to insert an element in a queue of length of n?
- a) O(log2n)
 - b) O(n).
 - c) O(1).
 - d) O(n log2n).

Answer: C

13. If a , b , c, are three nodes connected in sequence in a singly linked list, what is the statement to be added to change this into a circular linked list?
- a) a->next=b
 - b) b->next=c
 - c) c->next=a
 - d) all

Answer: C

14. In which of the following hashing methods, the below expression is used to find the home address, given a 6-digit number as the key.
- $$\text{Sum}=\text{key}\%100+(\text{key}/100)\%100+(\text{key}/10000).$$
- a) Modulo division
 - b) Key offset
 - c) Pseudo random
 - d) Fold shift

Answer: D

15. Which sorting technique uses a data structure similar to the one used in bucket hashing?
- a) Quick
 - b) Merge
 - c) Heap
 - d) Radix

Answer: D

16. For the array (77 ,62,114,80,9,30,99), write the order of the elements after two passes using the Radix sort.
- a) 80 30 62 114 77 9 99
 - b) 114 30 62 77 9 99
 - c) 9 114 30 62 77 80 99
 - d) 9 30 62 77 80 99 114

Answer: C

17. Which of these is asymptotically bigger?
- a) $79n^2+43n$
 - b) $65n^3+34n$
 - c) $6*2^n$
 - d) none

Answer: C

18. If $a[]$ is the array containing the elements to be sorted using radix sort, during the first iteration in which the LSD is considered, row number in 2D array to which an element has to be stored is given by

- a) $a[i]/10\%10$
- b) $a[i]\%10/10$
- c) $a[i]\%10$
- d) $a[i]/100\%10$

Answer: C

```
19. temp=root->left;  
    while(temp->right!=NULL)  
  
        temp=temp->right;  
  
    return temp;
```

The above code snippet for a BST with the address of the root node in pointer 'root'

returns

- a) Inorder successor of the root
- b) Maximum element in the right subtree of root
- c) Both a and b
- d) Inorder predecessor of the root

Answer: D

20. For a tree which has no right subtree, if the inorder sequence is DBEA, its preorder sequence cannot be
- a) ABDE
 - b) BADE
 - c) AEBD
 - d) ABED

Answer: B

1. When determining the efficiency of algorithm, the space factor is measured by

- a. Counting the maximum memory needed by the algorithm
- b. Counting the minimum memory needed by the algorithm
- c. Counting the average memory needed by the algorithm
- d. Counting the maximum disk space needed by the algorithm

Answer a.

2. The complexity of Bubble sort algorithm is

- a. $O(n)$
- b. $O(\log n)$
- c. $O(n^2)$
- d. $O(n \log n)$

Answer b

3. Linked lists are best suited

- a. for relatively permanent collections of data
- b. for the size of the structure and the data in the structure are constantly changing

- c. for both of above situation
- d. for none of above situation

Answer b

4. If the values of a variable in one module is indirectly changed by another module, this situation is called

- a. internal change
- b. inter-module change
- c. side effect
- d. side-module update

Answer c

5. In linear search algorithm the Worst case occurs when

- a. The item is somewhere in the middle of the array
- b. The item is not in the array at all
- c. The item is the last element in the array
- d. The item is the last element in the array or is not there at all

Answer d

6. For an algorithm the complexity of the average case is

- a. Much more complicated to analyze than that of worst case
- b. Much more simpler to analyze than that of worst case

- c. Sometimes more complicated and some other times simpler than that of worst case
- d. None or above

Answer a

7. The complexity of merge sort algorithm is

- a. $O(n)$
- b. $O(\log n)$
- c. $O(n^2)$
- d. $O(n \log n)$

Answer d

8. The complexity of linear search algorithm is

- a. $O(n)$
- b. $O(\log n)$
- c. $O(n^2)$
- d. $O(n \log n)$

Answer a

9. When determining the efficiency of algorithm the time factor is measured by

- a. Counting microseconds

- b. Counting the number of key operations
- c. Counting the number of statements
- d. Counting the kilobytes of algorithm

Answer b

10. Which of the following data structure is linear data structure?

- a. Trees
- b. Graphs
- c. Arrays
- d. None of above

Answer c

11. The elements of an array are stored successively in memory cells because

- a. by this way computer can keep track only the address of the first element and the addresses of other elements can be calculated
- b. the architecture of computer memory does not allow arrays to store other than serially
- c. both of above
- d. none of above

Answer a

12. Which of the following data structure is not linear data structure?

- a. Arrays
- b. Linked lists
- c. Both of above
- d. None of above

Answer d

13. The Average case occur in linear search algorithm

- a. When Item is somewhere in the middle of the array
- b. When Item is not in the array at all
- c. When Item is the last element in the array
- d. When Item is the last element in the array or is not there at all

Answer a

14. Two main measures for the efficiency of an algorithm are

- a. Processor and memory
- b. Complexity and capacity
- c. Time and space
- d. Data and space

Answer c

15. Finding the location of the element with a given value is:

- a. Traversal
- b. Search
- c. Sort
- d. None of above

Answer b

16. Which of the following case does not exist in complexity theory

- a. Best case
- b. Worst case
- c. Average case
- d. Null case

Answer d

17. The operation of processing each element in the list is known as

- a. Sorting
- b. Merging
- c. Inserting
- d. Traversal

Answer d

18. Arrays are best data structures

- a. for relatively permanent collections of data
- b. for the size of the structure and the data in the structure are constantly changing
- c. for both of above situation
- d. for none of above situation

Answer a

19. Each array declaration need not give, implicitly or explicitly, the information about

- a. the name of array
- b. the data type of array
- c. the first data from the set to be stored
- d. the index set of the array

Answer c

20. The complexity of Binary search algorithm is

- a. $O(n)$
- b. $O(\log n)$
- c. $O(n^2)$

d. $O(n \log n)$

Answer b

21. Which if the following is/are the levels of implementation of data structure

A) Abstract level

B) Application level

C) Implementation level

D) All of the above

Answer D

22. A binary search tree whose left subtree and right subtree differ in height by at most 1 unit is called

A) AVL tree

- B) Red-black tree
- C) Lemma tree
- D) None of the above

Answer A

23. level is where the model becomes compatible executable code

- A) Abstract level
- B) Application level
- C) Implementation level
- D) All of the above

Answer C

24. Stack is also called as

A) Last in first out

B) First in last out

C) Last in last out

D) First in first out

Answer A

25. Which of the following is true about the characteristics of abstract data types?

i) It exports a type.

ii) It exports a set of operations

A) True, False

B) False, True

C) True, True

D) False, False

Answer C

26. is not the component of data structure.

A) Operations

B) Storage Structures

C) Algorithms

D) None of above

Answer D

27. Which of the following is not the part of ADT description?

- A) Data
- B) Operations
- C) Both of the above
- D) None of the above

Answer D

28. Inserting an item into the stack when stack is not full is called Operation and deletion of item from the stack, when stack is not empty is calledoperation.

- A) push, pop
- B) pop, push

C) insert, delete

D) delete, insert

Answer A

29. Is a pile in which items are added at one end and removed from the other.

A) Stack

B) Queue

C) List

D) None of the above

Answer B

30. is very useful in situation when data have to stored and

then retrieved in reverse order.

A) Stack

B) Queue

C) List

D) Link list

Answer A

31. Which data structure allows deleting data elements from and inserting at rear?

A) Stacks

B) Queues

C) Dequeues

D) Binary search tree

Answer B

32. Which of the following data structure can't store the non-homogeneous data elements?

A) Arrays

B) Records

C) Pointers

D) Stacks

Answer A

33. A is a data structure that organizes data similar to a line in the supermarket, where the first one in line is the first one out.

A) Queue linked list

B) Stacks linked list

C) Both of them

D) Neither of them

Answer A

34. Which of the following is non-liner data structure?

A) Stacks

B) List

C) Strings

D) Trees

Answer D

35. Herder node is used as sentinel in

A) Graphs

B) Stacks

C) Binary tree

D) Queues

Answer C

36. Which data structure is used in breadth first search of a graph to hold nodes?

A) Stack

B) queue

C) Tree

D) Array

Answer B

37. Identify the data structure which allows deletions at both ends of the list but insertion at only one end.

A) Input restricted dequeue

B) Output restricted qeueue

C) Priority queues

D) Stack

Answer A

38. Which of the following data structure is non linear type?

A) Strings

B) Lists

C) Stacks

D) Graph

Answer D

39. Which of the following data structure is linear type?

A) Graph

B) Trees

C) Binary tree

D) Stack

Answer D

40. To represent hierarchical relationship between elements, Which data structure is suitable?

A) Dequeue

B) Priority

C) Tree

D) Graph

Answer C

41. The complexity of Bubble sort algorithm is

A. $O(n)$

B. $O(\log n)$

C. $O(n^2)$

D. $O(n \log n)$

Answer B

42. The data structure required to evaluate a postfix expression is

- A. queue
- B. stack
- C. array
- D. linked-list

Answer C

43. The indirect change of the values of a variable in one module by another module is called

- A. internal change
- B. inter-module change
- C. side effect
- D. side-module update

Answer B

44. The process of accessing data stored in a serial access memory is similar to manipulating data on a

- A. heap
- B. queue
- C. stack
- D. binary tree

Answer B

45. Which of the following data structure is linear data structure?

- A. Trees
- B. Graphs
- C. Arrays
- D. None of above

Answer C

46. The operation of processing each element in the list is known as

- A. Sorting

B. Merging

C. Inserting

D. Traversal

Answer C

47. Finding the location of the element with a given value is:

A. Traversal

B. Search

C. Sort

D. None of above

Answer D

48. A BST is traversed in the following order recursively: Right, root, left

The output sequence will be in

A. Ascending order

B. Descending order

C. Bitomic sequence

D. No specific order

Answer B

49. Linked lists are best suited

A. for relatively permanent collections of data

B. for the size of the structure and the data in the structure are constantly changing

C. for both of above situation

D. for none of above situation

Answer B

50. Each array declaration need not give, implicitly or explicitly, the information about

A. the name of array

B. the data type of array

C. the first data from the set to be stored

D. the index set of the array

Answer B

ITE302 - Database Systems / Comprehensive Exam Questions

1. Assume that a table R with 1000 records is to be joined with another table S with 10000 records. What is the maximum number of records that would result in if we join R with S and the equi-join attribute of S is the primary key?

(a) 1,000	(b) 10,000
(c) 1,00,00,000	(d) 11,000

2. Consider a schedule S1 given below;

R1(A); W1(A); R2(B); R2(A); R1(B); W2(A+B); W1(B); where R1 and W1 are read and write operations of transaction T1 and R2 and W2 are read and write operations of transaction T2.

Which of the following is correct regarding schedule S1?

(a) S1 is a serializable schedule	(b) A deadlock will occur if 2PL is used
(c) S1 is a conflict serializable schedule	(d) S1 is a view serializable schedule

3. Consider a relation R (A, B). If $A \rightarrow B$ is a trivial functional dependency and A is the super key for R, then what is the maximum normal form R can be in?

(a) 3NF	(b) 2NF
(c) BCNF	(d) 1NF

4. Which of the following is a disadvantage of file processing system?

- (I) Efficiency of high level programming,
- (II) Data Isolation
- (III) Integrity issues
- (IV) Storing of records as files

(a) I only	(b) III only
(c) II and III only	(d) II and IV only

5. The data manipulation language used in SQL is a,

- (I) Procedural DML
- (II) Non-Procedural DML
- (III) Modification DML
- (IV) Declarative DML

(a) I and II only	(b) III and IV only
(c) II and IV only	(d) I and IV only

6. Which of the following is not a function of a DBA?

(a) Table creation	(b) Index creation
(c) User creation	(d) Application creation

7. Assume a relation R with keys X, Y and Z, where X, Y, and Z are sets of one or more attributes. Also assume that Y is a subset or equal to X and Z is a subset of X and Y. Which of the following is true for this case?

(a) X and Y are candidate keys of R	(b) Y and Z are the candidate keys of R
(c) X is the only candidate key of R	(d) Z is the only candidate key of R

8. Assume relations R and S with the schemas R (A, B, C) and S (B, D). Which of the following is equivalent to $r \bowtie s$?

(a) $\sigma_{r.B = s.B} (r \bowtie s)$	(b) $\Pi_{r.A, r.B, r.C, s.D} (\sigma_{r.B = s.B} (r \times s))$
(c) $\Pi_{r.A, r.B, s.B, r.C, s.D} (\sigma_{r.B = s.B} (r \times s))$	(d) $\Pi_{r.A, r.B, s.B, r.C, s.D} (\sigma_{r.B = s.B} (r \bowtie s))$

9. Consider a relational table with the schema R (A, B, C). Assume that the cardinality of attribute A is 10, B is 20, and C is 5. What is the maximum number of records R can have without duplicate?

(a) 35	(b) 100
(c) 1000	(d) 200

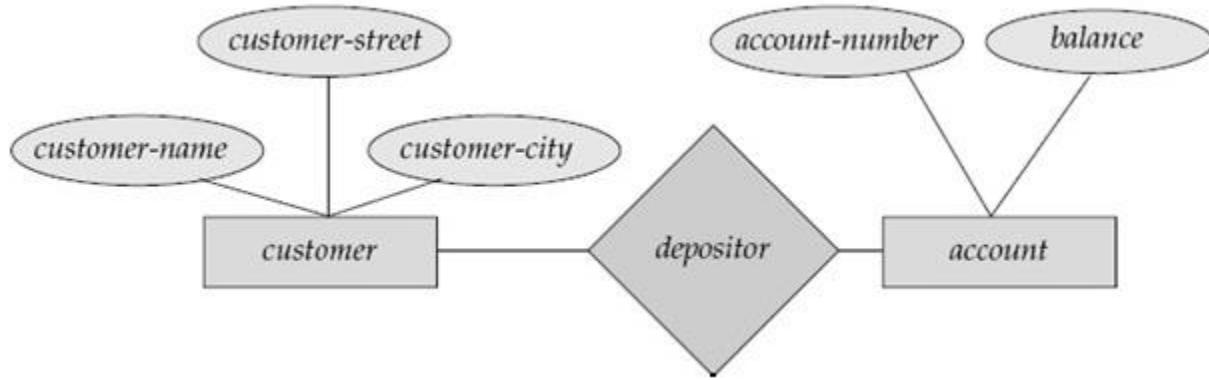
10. Which of the following operator in SQL would produce the following result if applied between two relations Employee and Department?

Eno	EName	DeptNo	DName
111	Kumar	100	Sales
222	Steve	200	Finance
Null	Null	300	Admn
244	Meera	400	Mktg

(a) Outer Join	(b) Natural Join
-----------------------	------------------

(c) Cartesian Join	(d) Projection Join
11. Consider the schedules given below. All of them involving at least three transactions. The read operation on a data item x is represented as $r_i(x)$ and a write operation is represented as $w_i(x)$ where i is the transaction number. Which one of them is conflict serializable?	
(a) $r_2(x), r_1(x), w_2(x), r_3(x), w_1(x)$	(b) $r_2(x), w_2(x), r_3(x), r_1(x), w_1(x)$
(c) $r_1(x), r_2(x), w_1(x), r_3(x), w_2(x)$	(d) $r_3(x), r_2(x), r_1(x), w_2(x), w_1(x)$
12. Consider a disk with following specification; sector size - 512 bytes, tracks per surface - 2000, sectors per track - 60, double-sided platters - 4, and average seek time - 20 msec. For a 5400 rpm hard disk for one revolution, if a single track of data can be transferred, then what is the transfer rate?	
(a) 2727 Kbytes/second	(b) 2020 Kbytes/second
(c) 5400 Kbytes/second	(d) 2048 Kbytes/second
13. Assume that a table CUSTOMER has 10000 records. If the block size 1024 bytes and the record size is 80 bytes, how many records can be stored in each block to achieve maximum performance and how many blocks are required to store the entire table?	
(a) 12, 834	(b) 13, 833
(c) 24, 834	(d) 23, 833
14. Consider a relation R (A, B, C, D, E) with set of functional dependencies $F = \{A \rightarrow BC, CD \rightarrow E, B \rightarrow D, E \rightarrow A\}$. Which of the following is one of the candidate keys of R?	
(a) ABC	(b) B
(c) E	(d) ED
15. Given $R = ABCDEFGH$ and set of functional dependencies $F = \{BH \rightarrow C, BH \rightarrow F, E \rightarrow F, A \rightarrow D, F \rightarrow A, BH \rightarrow E, C \rightarrow E, F \rightarrow D\}$, which of the following is redundant set of functional dependencies?	
(a) $BH \rightarrow C, F \rightarrow D, F \rightarrow A$	(b) $BH \rightarrow C, F \rightarrow D, BH \rightarrow E$
(c) $BH \rightarrow E, A \rightarrow D, F \rightarrow D$	(d) $BH \rightarrow C, A \rightarrow D, BH \rightarrow E$
16. Assume a relation ACCOUNT (acno, balance, type, branch, last_accessed) with 1 million records. If a SQL query "SELECT balance FROM account WHERE balance > 5000" would produce 800000 records, which one of the following is the optimized version of relational algebra expressions that is equivalent to the given SQL query?	
(a) $\sigma_{balance} (\Pi_{balance > 5000} (account))$	(b) $\sigma_{balance > 5000} (\Pi_{balance} (account))$
(c) $\Pi_{balance} (\sigma_{balance < 5000} (account))$	(d) $\Pi_{balance > 5000} (\sigma_{balance} (account))$

17. Consider the ER diagram given below:



If *depositor* is a one-to-many relationship from account to customer, then this ER diagram can be reduced to which of the following relational schemas?

(a) Customer (customer-name, customer-street, customer-city, account-number) Account(account-number, balance)	(b) Customer (customer-name, customer-street, customer-city, account-number) Account(account-number, balance, customer-name) Depositor (customer-name, account-number)
(c) Customer (customer-name, customer-street, customer-city) Account(account-number, balance) Depositor (customer-name, account-number)	(d) Customer (customer-name, customer-street, customer-city) Account(account-number, balance, customer-name)

18. The conjunctive selection operation $\sigma_{\theta_1 \wedge \theta_2}(E)$ is equivalent to _____

(a) $\sigma_{\theta_1}(E) \cup \sigma_{\theta_2}(E)$	(b) $\sigma_{\theta_1}(E) \cap \sigma_{\theta_2}(E)$
(c) $\sigma_{\theta_1}(\sigma_{\theta_2}(E))$	(d) $\pi_{\theta_1}(E) \cup \pi_{\theta_2}(E)$

19. Assume a table Employee (Eno, Ename, Dept, Salary, Phone) with 10000 records. Also assume that Employee has a non-clustering index on Salary, clustering indexes on Dept and Phone. If there is a SQL query "SELECT Eno FROM Employee WHERE Salary/12 = 10000", which of the following will happen during query execution?

(a) Query will use index of Salary	(b) Query will use index of Dept
(c) Query will use index of Phone	(d) Query will not use index

20. Which of the following concurrency control mechanisms insist unlocking of all read and write locks of transactions at the end of commit?

(a) Strict 2 Phase Locking	(b) Simple 2 Phase Locking
----------------------------	----------------------------

(c) Timestamp ordering

(d) Rigorous 2 Phase Locking

DBMS MCQs

1. What are the desirable properties of a transaction?

- A) Atomicity, consistency, isolation, deadlock
- B) Atomicity, consistency, isolation, durability
- C) Atomicity, concurrency, isolation, durability

2. If a transaction T has obtained an exclusive lock on item Q, then T can

- A) read Q
- B) write Q
- C) both read and write Q
- D) write Q but not read Q

3. If two relations R and S are joined, then the non matching tuples of both R and S are ignored in

- A) left outer join
- B) right outer join
- C) full outer join
- D) inner join

4. The FD $A \rightarrow B$, $DB \rightarrow C$ implies

- A) $DA \rightarrow C$
- B) $A \rightarrow C$
- C) $B \rightarrow A$
- D) $DB \rightarrow A$

5. The process of analyzing the given relation schemas based on their functional dependencies is known as

- A) Dependency
- B) normalization
- C) both a and b
- D) none

6. Block-interleaved distributed parity is RAID level

- (A) 2.
- (B) 3
- (C) 4.
- (D) 5.

7. Maximum height of a B+ tree of order m with n key values is

- A) $\log_m(n)$
- B) $(m+n)/2$
- C) $\log_{m/2}(m+n)$
- D) None of these

8. What operator performs pattern matching?

- A) LIKE
- B) NULL
- C) NOT NULL
- D) IS NULL

9. Manager's salary details are hidden from the employee. This is called as

- (A) Conceptual level data hiding
- (B) Physical level data hiding
- (C) External level data hiding
- (D) Local level data hiding

10. Which of the following statements is false?

- (A) Any relation with two attributes is in BCNF.
- (B) A relation in which every key has only one attribute is in 2NF.
- (C) A prime attribute can be transitively dependent on a key in 3NF relation.
- (D) A prime attribute can be transitively dependent on a key in BCNF relation.

11. A clustering index is created when _____.

- (A) primary key is declared and ordered
- (B) no key ordered
- (C) foreign key ordered
- (D) there is no key and no order

12. Which of the following is not a consequence of non-normalized database?

- A) Update Anomaly B) Insertion Anomaly C) Redundancy D) Lost update problem

13. An ER Model includes

- I. An ER diagram portraying entity types.
- II. Attributes for each entity type
- III. Relationships among entity types.

IV. Semantic integrity constraints that reflects the business rules about data not captured in the ER diagram.

(A) I, II, III & IV (B) I & IV

(C) I, II & IV (D) I & III

14. If the closure of an attribute set is the entire relation then the attribute set is a

A) Super key B) candidate key C) primary key D) not a key

15. Which of the following are the advantages of DBMS?

A) Redundancy is controlled B) unauthorized access is restricted
C) enforce integrity constraints D) all of these

16. Division operation is ideally suited to handle queries of the type :

(A) customers who have no account in any of the branches in Delhi.

(B) customers who have an account at all branches in Delhi.

(C) customers who have an account in atleast one branch in Delhi.

(D) customers who have only joint account in any one branch in Delhi

17. Which of the following is true ?

I. Implementation of self-join is possible in SQL with table alias.

II. Outer-join operation is basic operation in relational algebra.

III. Natural join and outer join operations are equivalent.

(A) I and II are correct. (B) II and III are correct.

(C) Only III is correct. (D) Only I is correct.

18. What kind of mechanism is to be taken into account for converting a weak entity set into strong entity set in entity-relationship diagram ?

(A) Generalization (B) Aggregation

(C) Specialization (D) Adding suitable attributes

19. The best normal form of relation scheme R (A, B, C, D) along with the set of functional dependencies $F = \{AB \rightarrow C, AB \rightarrow D, C \rightarrow A, D \rightarrow B\}$ is

- (A) Boyce-Codd Normal form (B) Third Normal form
- (C) Second Normal form (D) First Normal form

20. Identify the minimal key for relational scheme R(A, B, C, D, E) with functional dependencies $F = \{A \rightarrow B, B \rightarrow C, AC \rightarrow D\}$

- (A) A (B) AE (C) BE (D) CE

1 B

2 C

3 D

4 A

5 B

6 D

7 D

8 A

9 C

10 D

11 A

12 D

13 A

14 A

15 D

16 B

17 D

18 D

19 B

20 A

1. _____ users work on canned transactions
 - a. sophisticated
 - b. naïve
 - c. DBA
 - d. casual
2. If a hospital has to store the description of each visit of a patient according to date what attribute you will use in the patient entity type?
 - a. Composite
 - b. complex
 - c. multi valued
 - d. weak entity
3. Passing the request from one schema to another in DBMS architecture is called as

 - a. Mapping
 - b. Communication
 - c. Relational
 - d. network
4. _____ gives the concepts to describe the structure of the database.
 - a. Data Model
 - b. Relational model
 - c. Domain model
 - d. Schema model
5. _____ is the description of the database
 - a. schema
 - b. schema construct
 - c. schema evolution
 - d. snapshot
6. The advantage of DBMS over file systems is
 - a. redundancy
 - b. data dependence
 - c. multiple user
 - d. single user

7. Changing the conceptual schema without having to change the external schema is called as _____
a) physical data independence b) logical data independence c) data model d) relational model
8. _____ is the first schema to be designed when you are developing a DBMS
a) conceptual b) relational c) physical d) hierarchical
9. Creating a B Tree index for your database has to specify in _____.
a. DDL b. SDL c. VDL d. TCL
10. DBMS cannot be classified on
a) data model b) Number of sites c) Number of users d) Concurrency level
11. _____ attribute is used when the values are not divisible
a) Simple b) derived c) multiple d) descriptive
12. Which of this is not a implementation data model
a. a. UML b. Relational c. Hierarchical d. network
13. The relationship that exists within the same entity type is called as _____ relationship.
a. Identifying b. recursive c. logical d. physical
14. Adding a new column to a table comes in
a. a. DDL b. SDL c. VDL d. TCL
15. To change the access path programs are categorized under _____ data independence.
a. Physical b. logical c. internal d. external
16. The data type describing the types of values that can appear in each column is called _____.
a. Domain b. Tuple c. Attribute d. Relation
17. The set of all attributes of a relation is called default _____.
a. Primary Key b. Super Key c. Foreign Key d. Alternate key
18. Minimal super key of a relation is called _____.

- a. Primary Key b. Super Key c. Foreign Key d. Alternate key
19. R has n tuples and S has m tuples, then the Cartesian product of R and S will produce _____ tuples.
- a. $n+m$ b. $n*m$ c. n/m d. $n-m$
20. _____ constraint is specified between two relations and is used to maintain the consistency among tuples of the two relations
- a. primary b. check c. referential d. secondary
21. In Relational model, the table is called a _____.
- a. Domain b. Tuple c. Attribute d. Relation
22. The combination of selection and Cartesian product operators is _____ operator
- a. Division b. Set difference c. Join d. Union
23. The attributes in foreign key and primary key have the same _____.
- a. Number of tuples b. Number of attributes c. Domain d. Symbol
24. _____ join requires that the two join attributes have the same name in both relations.
- a. Theta Join b. Equi join c. Self join d. Natural join
25. The expected size of the join result divided by the maximum size is called _____.
- a. Join cardinality b. join selectivity c. join count d. number of rows

1. Naïve
2. Complex
3. Mapping
4. Data model
5. Schema
6. multiple user
7. Logical Data Independence
8. Conceptual
9. SDL
10. Concurrency level
11. Simple
12. UML
13. recursive
14. DDL
15. Physical
16. Domain
17. Super Key
18. Primary Key
19. $n * m$
20. referential
21. Relation
22. Join
23. Domain
24. Natural join
25. join selectivity



ITE303- Data Communication and Computer Networks

1. Error correction and error detection happens in _____ layer.

- a. Physical layer
- b. Data link layer
- c. Session layer
- d. Application layer

Ans: a

2. _____ uses reliable message stream.

- a. Connection oriented service
- b. Connection less service
- c. UDP
- d. RS232

Ans: a

3. X.25 Networks is _____

- a. Packet switched
- b. Circuit switched
- c. Connection less service
- d. UDP

Ans: a

4. ATM uses a ____ packet size

- a. Fixed 53byte
- b. Randomized
- c. Taken care by TCP fragmentation
- d. 48byte

Ans: a

5. Switch works in ____ layer of OSI model.

- a. 2,3
- b. 3
- c. 2
- d. 1,2,3,4

Ans: a

6. Elements in network core:

- a. Routers
- b. Applications
- c. Hosts
- d. Servers

Ans: a

7. Each router must implement some queuing discipline. Queuing allocates _____

- a. Bandwidth
- b. Protocol
- c. Connectivity parameters
- d. QoS levels

Ans:a

8. In _____ mechanism arriving packets get dropped when queue is full regardless of flow or importance

- a. Drop tail
- b. FIFO
- c. Leaky bucket
- d. STF

Ans:a

9. Mapping from ASCII strings to binary network address is done by _____

- a. DNS
- b. DHCP
- c. IMAP
- d. SNMP

Ans:a

10. Network Interface card contains _____

- a. MAC address
- b. IP address
- c. Port no.
- d. Seq no.

Ans: a

11. In datagram network packets typically routed using destination _____

- a. Host id.
- b. IP address
- c. Port no
- d. Mac address

Ans:a

12. In dynamic routing mechanism the route changes in response to _____

- a. link cost changes
- b. time
- c. fragmentation size
- d. sequence order

Ans:a

13. In _____ least cost paths from one node is computed

- a. Dijkstra algo
- b. Fredmen algo
- c. Schezen algo
- d. Domen algo

Ans:a

14. A backbone network that connects LANs in several buildings is sometimes referred to as a

- a. campus-wide network.
- b. Internet
- c. Extranet
- d. internet

Ans:a

15. _____ operate at the network layer, connecting two or more network segments that use the same or different data link layer protocols, but the same network layer protocol.

- a. Routers
- b. Firewall
- c. Bridges
- d. Gateway

Ans:a

16. The _____ connects different backbone networks together

- a. core_layer
- b. access layer
- c. distributed layer
- d. link layer

Ans:a

17. TCP manages a point-to-point and _____ connection for an application between two computers

- a. full-duplex
- b. simple
- c. half duplex
- d. multi point

Ans:a

18. A virtual circuit connection consists of two endpoints. Each endpoint is a pair of integers

- a. host, port
- b. socket, port
- c. address, port

d. seqno, port

Ans: a

19. UDP has a smaller overhead than TCP, especially when the total size of the messages is

- a. Small
- b. Large
- c. Segmented
- d. Sequenced

Ans: a

20. Reliability in network is directly proportional to ____

- a. Availability
- b. Failure
- c. Speed
- d. Routing

Ans:a

1. How switching is performed in the internet?

- (A) Datagram approach to circuit switching at data link layer
- (B) Virtual circuit approach to message switching at network layer
- (C) Datagram approach to message switching at datalink layer
- (D) Datagram approach to packet switching at network layer.

Ans: A

2. A telephone switch is a good example of which of the following types of switches.

- (A) packet
- (B) buffer
- (C) fabric
- (D) circuit

Ans: D

3. A bit-stuffing based framing protocol uses an 8-bit delimiter pattern of 01111110. If the output bit-string after stuffing is 01111100101, then the input bit-string is

- (A) 0111110100
- (B) 0111110101
- (C) 0111111101
- (D) 0111111111

Answer: (B)

4. In the following pairs of OSI protocol layer/sub-layer and its functionality, the **INCORRECT** pair is

- (A) Network layer and Routing
- (B) Data Link Layer and Bit synchronization
- (C) Transport layer and End-to end process communication
- (D) Medium Access Control sub-layer and Channel sharing

Ans: B

5. Which one of the following protocols is NOT used to resolve one form of address to another one?

- (A) DNS
- (B) ARP
- (C) DHCP
- (D) RARP

Ans:C

6. The transport layer protocols used for real time multimedia, file transfer, DNS and email, respectively are

- (A) TCP, UDP, UDP and TCP
- (B) UDP, TCP, TCP and UDP
- (C) UDP, TCP, UDP and TCP
- (D) TCP, UDP, TCP and UDP

Answer:-(C)

7. Which of the following transport layer protocols is used to support electronic mail?

- (A) SMTP
- (B) IP
- (C) TCP
- (D) UDP

Answer:-(C)

8. In one of the pairs of protocols given below, both the protocols can use multiple TCP connections between the same client and the server. Which one is that?

- (A) HTTP,FTP
- (B) HTTP,TELNET
- (C) FTP,SMTP
- (D) HTTP,SMTP

Ans: A

9. The protocol data unit (PDU) for the application layer in the Internet stack is

- (A) Segment
- (B) Datagram
- (C) Message
- (D) Frame

Answer:-(C)

10. In an Ethernet local area network, which one of the following statements is TRUE?

- (A) A station stops to sense the channel once it starts transmitting a frame.
- (B) The purpose of the jamming signal is to pad the frames that are smaller than the minimum frame size.
- (C) A station continues to transmit the packet even after the collision is detected.
- (D) The exponential backoff mechanism reduces the probability of collision on retransmissions.

Ans:D

11. In the IPv4 addressing format, the number of networks allowed under Class C addresses is

- (A) 2^{14}
- (B) 2^7
- (C) 2^{21}
- (D) 2^{24}

Answer:-(C)

12. Which one of the following fields of an IP header is NOT modified by a typical IP router?

- (A) Checksum
- (B) Source address
- (C) Time to Live (TTL)
- (D) Length

Ans:B

13. If a class B network on the Internet has a subnet mask of 255.255.248.0, what is the maximum number of hosts per subnet?

- (A) 1022
- (B) 1023
- (C) 2046
- (D) 2047

Ans:C

14. Assume that source S and destination D are connected through two intermediate routers labeled R. Determine how many times each packet has to visit the network layer and the data link layer during a transmission from S to D.

- (A) Network layer – 4 times and Data link layer-4 times
- (B) Network layer – 4 times and Data link layer-3 times
- (C) Network layer – 4 times and Data link layer-6 times
- (D) Network layer – 2 times and Data link layer-6 times

Answer:-(C)

15. Identify the correct sequence in which the following packets are transmitted on the network by a host when a browser requests a webpage from a remote server, assuming that the host has just been restarted.

- (A) HTTP GET request, DNS query, TCP SYN
- (B) DNS query, HTTP GET request, TCP SYN
- (C) DNS query, TCP SYN, HTTP GET request
- (D) TCP SYN, DNS query, HTTP GET request

Ans:C

16. An IP router with a Maximum Transmission Unit (MTU) of 1500 bytes has received an IP packet of size 4404 bytes with an IP header of length 20 bytes. The values of the relevant fields in the header of the third IP fragment generated by the router for this packet are

- (A) MF bit: 0, Datagram Length: 1444; Offset: 370
- (B) MF bit: 1, Datagram Length: 1424; Offset: 185
- (C) MF bit: 1, Datagram Length: 1500; Offset: 370
- (D) MF bit: 0, Datagram Length: 1424; Offset: 2960

Answer: (A)

17. One of the header fields in an IP datagram is the Time to Live (TTL) field. Which of the following statements best explains the need for this field?

- (A) It can be used to prioritize packets
- (B) It can be used to reduce delays
- (C) It can be used to optimize throughput
- (D) It can be used to prevent packet looping

Ans: D

18. Using public key cryptography, X adds a digital signature σ to message M, encrypts $\langle M, \sigma \rangle$, and sends it to Y, where it is decrypted. Which one of the following sequences of keys is used for the operations?

- (A) Encryption: X's private key followed by Y's private key; Decryption: X's public key followed by Y's public key
- (B) Encryption: X's private key followed by Y's public key; Decryption: X's public key followed by Y's private key
- (C) Encryption: X's public key followed by Y's private key; Decryption: Y's public key followed by X's private key
- (D) Encryption: X's private key followed by Y's public key; Decryption: Y's private key followed by X's public key

Answer:-(D)

19. Suppose that everyone in a group of N people wants to communicate secretly with N-1 others using symmetric key cryptographic system. The communication between any two persons should not be decodable by the others in the group. The number of keys required in the system as a whole to satisfy the confidentiality requirement is

- (A) $2N$
- (B) $N(N-1)$
- (C) $N(N-1)/2$
- (D) $(N-1)^2$

Ans: C

20. A layer -4 firewall (a device that can look at all protocol headers up to the transport layer) CANNOT

- (A) block entire HTTP traffic during 9:00PM and 5:00AM
- (B) block all ICMP traffic
- (C) stop incoming traffic from a specific IP address but allow outgoing traffic to the same IP address
- (D) block TCP traffic from a specific user on a multi-user system during 9:00PM and 5:00AM

Ans: D

1. In Circuit Switching, resources need to be reserved during the

- a) Data transfer phase
- b) Teardown phase.
- c) **Setup phase**
- d) Propagation phase

2. The resources needed for communication between end systems are reserved for the duration of session between end systems in _____

- a) Packet switching
- b) **Circuit switching**
- c) Line switching
- d) Frequency switching

3. If message in Segmentation and Reassembly (SAR) sub layer of Application Adaptation Layer 3/4 has value of Segment type is 11 then it is called a

- a) Beginning message
- b) Ending message
- c) Single-segment message**
- d) Middle message

4. Congestion control and quality of service is qualities of the

- a) ATM**
- b) DH
- c) Frame Relay
- d) SONET

5. The local host and the remote host are defined using IP addresses. To define the processes, we need second identifiers called.....

- a) UDP addresses
- b) transport addresses
- c) Port addresses**
- d) TCP addresses

6. UDP uses..... to handle outgoing user datagrams from multiple processes on one host.

- a) Flow Control
- b) Multiplexing**
- c) Demultiplexing
- d) Data Control

7. The protocol defines a set of messages sent over either User Datagram Protocol (UDP) port53 or Transmission Control Protocol(TCP) port53.

- a) Name space
- b) DNS**
- c) Domain space
- d) Zone transfer

8. Which type of error detection uses binary division?

- a) Parity
- b) Longitudinal redundancy checking
- c) Checksum checking
- d) Cyclic redundancy checking**

9. When a network interface has a failure in its circuitry, it sends a continuous stream of frames causing the Ethernet LAN to enter a Collapse state. This condition is known as _____.

- a) Scattering
- b) Blocking
- c) **Jabbering**
- d) Refreshing

10. Value of checksum must be recalculated regardless of

- a) De-fragmentation
- b) Fragmentation**
- c) Transferred
- d) Shared

11. Dotted-decimal notation of 10000001 00001011 00001011 11101111 would be

- a) 193.131.27.255
- b) 129.11.11.239**
- c) 192.168.10.9
- d) 172.16.11.3

12. Which one of the following allows a user at one site to establish a connection to another site and then pass keystrokes from local host to remote host?

- a) HTTP
- b) FTP
- c) Telnet**
- d) Sonet

13. These networking classes encapsulate the "socket" paradigm pioneered in the (BSD) Give the abbreviation of BSD?

- a) Berkeley Software Distribution**
- b) Berkeley Socket Distribution
- c) Berkeley System Data
- d) Berkeley Synchronization Data

14. Digital signature envelope is decrypted by using _____.

- a) Merchant Private Key.
- b) Payment's Private Key.**
- c) Payment Public Key.
- d) Merchant's Public Key.

15. The processed S/MIME along with security related data is called as _____.

- a) Public Key Cryptography Standard.**
- b) Private Key Cryptography Standard.
- c) S/MIME.
- d) MIME.

16. _____ Substitution is a process that accepts 48 bits from the XOR operation.

- a) **S-box.**
- b) P-box.
- c) Expansion permutations.
- d) Key transformation.

17. In Mode, the authentication header is inserted immediately after the IP header.

- a) **Tunnel**
- b) Transport
- c) Packet switching
- d) Payload of the header

18. _____ uniquely identifies the MIME entities uniquely with reference to multiple contexts.

- a) Content description.
- b) Content-id.**
- c) Content type.
- d) Content transfer encoding.

19. Which one of the following is a cryptographic protocol used to secure HTTP connection?

- a) Stream Control Transmission Protocol (SCTP)
- b) Transport Layer Security (TSL)**
- c) Explicit Congestion Notification (ECN)
- d) Resource Reservation Protocol

20. ----- is a mode of operation for a block cipher, with the characteristic that each possible block of plaintext has a defined corresponding ciphertext value and vice versa.

- a) Foot printing
- b) Hash Function
- c) Water Mark
- d) Electronic Code Book**

Multiple Choice Questions on Microprocessor & its peripherals

8086:

1. The 16 bit flag of 8086 microprocessor is responsible to indicate _____
A. the condition of result of ALU operation
B. the condition of memory
C. the result of addition
D. the result of subtraction
Answer : A
2. The BIU contains FIFO register of size _____ bytes
A. 8 B. 6 C. 4 D. 12
Answer : B
3. The _____ translates a byte from one code to another code
A. XLAT B. XCHNG C. POP D. PUSH
Answer : A
4. A 20-bit address bus allows access to a memory of capacity
A. 1 MB B. 2 MB C. 4 MB D. 8 MB
Answer : A
5. If the offset of the operand is stored in one of the index registers, then it is
A. based indexed addressing mode
B. relative based indexed addressing mode
C. indexed addressing mode
D. none of the mentioned
Answer: c
6. 2. Which of the following is not a data copy/transfer instruction?
a) MOV
b) PUSH
c) DAS
d) POP
Answer : C
7. Match the following
a) MOvSB/SW 1) loads AL/AX register by content of a string
b) CMPS 2) moves a string of bytes stored in source to destination
c) SCAS 3) compares two strings of bytes or words whose length is stored in CX
register
d) LODS 4) scans a string of bytes or words
a) a-3,b-4,c-2,d-1
b) a-2,b-1,c-4,d-3
c) a-2,b-3,c-1,d-4
d) a-2,b-3,c-4,d-1
Answer : d
8. 20. NOP instruction introduces
a) Address
b) Delay
c) Memory location

Answer : b

8255 (Programmable Input – Output Port)

9. All the functions of the ports of 8255 are achieved by programming the bits of an internal register called

- a) data bus control
- b) read logic control
- c) control word register
- d) none

Answer: c

10. The data bus buffer is controlled by

- a) control word register
- b) read/write control logic
- c) data bus
- d) none

Answer: b

11. The port that is used for the generation of handshake lines in mode 1 or mode 2 is

- a) port A
- b) port B
- c) port C Lower
- d) port C Upper

Answer: d

8257 (DMA Controller)

12. In 8257 (DMA), each of the four channels has

- a) a pair of two 8-bit registers
- b) a pair of two 16-bit registers
- c) one 16-bit register
- d) one 8-bit register

Answer: b

13. The common register(s) for all the four channels of 8257 are

- a) DMA address register
- b) terminal count register
- c) mode set register and status register
- d) none of the mentioned

Answer: c

14. In 8257 register format, the selected channel is disabled after the terminal count condition is reached when

- a) auto load is set
- b) auto load is reset
- c) TC STOP bit is reset
- d) TC STOP bit is set

Answer: d

15. The pin that requests the access of the system bus is

- a) HLDA
- b) HRQ
- c) ADSTB

Answer: b

8254 (Programmable Interval Timer)

16. The number of counters that are present in the programmable timer device 8254 is

- a) 1
- b) 2
- c) 3
- d) 4

Answer: c

17. The mode that is used to interrupt the processor by setting a suitable terminal count is

- a) mode 0
- b) mode 1
- c) mode 2
- d) mode 3

Answer: a

18. In control word register, if SC1=0 and SC0=1, then the counter selected is

- a) counter 0
- b) counter 1
- c) counter 2

Answer: b

19. The counter starts counting only if

- a) GATE signal is low
- b) GATE signal is high
- c) CLK signal is low
- d) CLK signal is high

Answer: b

20. The result of MOV AL, 65 is to store

- A. store 0100 0010 in AL
- B. store 42H in AL
- C. store 40H in AL
- D. store 0100 0001 in AL

Answer: D

1. One operation that is not given by magnitude comparator

- A. equal
- B. less
- C. greater
- D. addition

2. Adding 1001 and 0010 gives output of

- A. 1011

- B. 1111
 - C. 0
 - D. 1010
3. Magnitude comparator compares using operation of
- A. addition
 - B. subtraction
 - C. division
 - D. multiplication
4. A Boolean function may be transformed into
- A. logical diagram
 - B. logical graph
 - C. map
 - D. matrix
5. Is it possible to find two algebraic expressions that specify same function
- A. no
 - B. yes
 - C. maybe
 - D. never
6. Using 10's complement $72532 - 3250$ is
- A. 69282
 - B. 69272
 - C. 69252
 - D. 69232
7. $X=1010100$ and $Y=1000011$ using 2's complement $X-Y$ is
- A. 10111
 - B. 101101
 - C. 10011
 - D. 10001
8. $X=1010100$ and $Y=1000011$ using 1's complement $Y-X$ is
- A. -10111
 - B. -10011
 - C. -10001
 - D. -11001

9. Table that is not a part of asynchronous analysis procedure

- A. transition table
- B. state table
- C. flow table
- D. excitation table

10. Shift registers are used for

- A. shifting
- B. rotating
- C. adding
- D. both a and b

11. Two variables will be represented by

- A. eight minterms
- B. six minterms
- C. five minterms
- D. four minterms

12. Adjacent squares represents a

- A. circle
- B. variable
- C. literal
- D. minterm

13. Eight minterms will be used for

- A. three variables
- B. four variables
- C. five variables
- D. six variables

14. Minterms are arranged in map in a sequence of

- A. binary sequence
- B. gray code
- C. binary variables
- D. BCD code

15. A circuit that converts n inputs to 2^n outputs is called

- A. encoder

- B. decoder
- C. comparator
- D. carry look ahead

16. Encoders are made by three

- A. AND gate
- B. OR gate
- C. NAND gate
- D. XOR gate

17. Decoder is a

- A. combinational circuit
- B. sequential circuit
- C. complex circuit
- D. gate

18. BCD to seven segment is a

- A. encoder
- B. decoder
- C. comparator
- D. carry look ahead

19. One that is not type of flipflop is

- A. JK
- B. T
- C. RS
- D. ST

20. Flip-flops can be constructed with two

- A. NAND gates
- B. OR gates
- C. AND gates
- D. NOT gates

21. RS flip-flops are also called

- A. RS latch
- B. SR latch
- C. TS latch
- D. ST latch

22. Decimal digit in BCD can be represented by

- A. 1 input line
- B. 2 input lines
- C. 3 input lines
- D. 4 input lines

23. In BCD no. 1010 has

- A. meaning
- B. no meaning
- C. value
- D. Vcc

24. To perform product of maxterms Boolean function must be brought into

- A. and terms
- B. or terms
- C. not terms
- D. nand terms

25. In excitation table of D flipflop next state is equal to

- A. present state
- B. next state
- C. input state
- D. D state

26. $X+y=z$ represents operation that is

- A. AND
- B. OR
- C. NOT
- D. XOR

27. Design procedure of combinational circuit involves

- A. 4 steps
- B. 5 steps
- C. 6 steps
- D. 8 steps

28. In design procedure input output values are assigned with

- A. numeric values

B. letter symbols

C. 0's

D. 1's

29. Output of AND gates in SOP is connected to

A. NOT gates

B. OR gates

C. AND gates

D. XOR gates

30. Mod-6 and mod-12 counters are most commonly used in:

A. frequency counters

B. multiplexed displays

C. digital clocks

D. power consumption meters

31. How many illegitimate states has synchronous mod-6 counter ?

A.3

B.2

C.1

D.6

32. The clock signals are used in sequential logic circuits to

A.Tell the time of the day

B.Tell how much time has elapsed since the system was turned on

C.Carry parallel data signals

D.Synchronize events in various parts of system

33. To build a mod-19 counter the number of flip-flops required is

A.3

B.5

C.7

D.9

33. The main difference between JK and RS flip-flop is that

A.JK flip flop needs a clock pulse

B.There is a feedback in JK flip-flop

C.JK flip-flop accepts both inputs as 1

D.JK flip-flop is acronym of Junction cathode multivibrator

34. Which of the following unit will choose to transform decimal number to binary code ?

A.Encoder

B.Decoder

- C.**Multiplexer
D.Counter

35. Simplified form of the boolean expression $(X + Y + XY)(X + Z)$ is

- A.** $X + Y + Z$
B. $XY + YZ$
C. $X + YZ$
D. $XZ + Y$

36. Which of the following boolean expressions is not logically equivalent to all of the rest ?

- A.** $ab + (cd)' + cd + bd'$
B. $a(b + c) + cd$
C. $ab + ac + (cd)'$
D. $bd' + c'd' + ab + cd$

37. Which of the following statements is true ?

- A.** $(A + B)(A + C) = AC + BC$
B. $(A + B)(A + C) = AB + C$
C. $(A + B)(A + C) = A + BC$
D. $(A + B)(A + C) = AC + B$

38. A graphical display of the fundamental products in a truth-table is known as

- A.**Mapping
B.Graphing
C.T-map
D.karnaugh-map

39. The minimum number of NAND gates required to implement the Boolean function. $A + AB' + AB'C$ is equal to

- A.**zero
B.1
C.4
D.7

40. Which of the following logic expression is incorrect?

- A.** $1 \oplus 0 = 1$
B. $1 \oplus 1 \oplus 0 = 1$
C. $1 \oplus 1 \oplus 1 = 1$
D. $1 \oplus 1 = 0$

OPERATING SYSTEMS

1. In the process state transition diagram, the transition from the READY state to the RUNNING state indicates that:

- a. A process was pre-empted by another process
- b. A process has blocked for a semaphore or other operation
- c. A process is done waiting for an I/O operation
- d. A process was just created

Ans: a

2. Which of the following is shared between all of the threads in a process? Assume a kernel level thread implementation.

- a. Register values
- b. File descriptors
- c. Scheduler priority
- d. Local variables

Ans: b

3. Which of the following is not true?

- a. Shortest Remaining Time next is the best preemptive scheduling algorithm in terms of turnaround time
- b. Priority scheduling can suffer from starvation
- c. Lottery scheduling is pre-emptive
- d. Multi-level feedback queue guarantee equal time to all processes

Ans: d

4. A critical region is

- a. The part of a program in which shared data is accessed
- b. The most important part of the program

- c. The part of the kernel that interfaces directly to the device controllers
- d. The part of a program in which a bug would cause the program to exit

Ans: a

5. Which of the following is not used for synchronization?

- a. The bakery algorithm
- b. The banker's algorithm
- c. Busy waiting with test and set
- d. Monitors

Ans: b

6. Which of the following is not true of virtual memory?

- a. It allows more efficient use of memory
- b. It requires hardware support
- c. It reduces the need for relocatable code
- d. It requires the use of a disk or other secondary storage

Ans: d

7. Which of the following is not usually stored in a two-level page table?

- a. Virtual page number
- b. Physical page number
- c. Dirty bit
- d. Reference bit

Ans: a

8. Which of the following paging algorithms is most likely to be used in a virtual memory system?

- a. FIFO
- b. Second chance
- c. Least Recently Used
- d. Least Frequently Used

Ans: b

9. The purpose of a TLB is

- a. To cache page translation information
- b. To cache frequently used data
- c. . To hold register values while a process is waiting to be run
- d. To hold the start and length of the page table

Ans: a

10. Which of the following is not true about segmented memory management?

- a. Segment length must be a multiple of the page size
- b. Segmentation allows multiple linear address space in one process
- c. Segmentation can be used with paging to keep segments partially resident in memory
- d. A segment can be read-only for one process and read-write for another

Ans: a

11. System calls:

- a. Provide a rich and flexible API for software developers
- b. Often change dramatically between different releases of an operating system
- c. Protect kernel data structures from user code
- d. Allow the operating system to optimize performance

Ans: c

12. What is the main difference between traps and interrupts?

- a. How they are initiated
- b. The kind of code that's used to handle them
- c. Whether or not the scheduler is called
- d. How the operating system returns from them

Ans: a

13. Buffering is useful because

- a. It makes it seem like there's more memory in the computer
- b. It reduces the number of memory copies required
- c. It allows all device drivers to use the same code
- d. It allows devices and the CPU to operate asynchronously

Ans: d

14. The main advantage of DMA is that it

- a. Increases system performance by increasing concurrency
- b. Allows the CPU to run faster
- c. Reduces the traffic on the data bus
- d. Removes the requirement that transfers be properly aligned

Ans: a

15. Which of the following disk seek algorithms would be the best choice to implement in a system that services an average of 5 disk requests per second?

- a. FCFS
- b. SSTF

- c. SCAN
- d. C-SCAN

Ans: a

16. Which of the following disk seek algorithms has the most variability in response time?

- a. FCFS
- b. SSTF
- c. SCAN
- d. C-SCAN

Ans: b

17. A typical hard drive has a peak throughput of about

- a. 2×10^5 bytes per second
- b. 2×10^6 bytes per second
- c. 2×10^7 bytes per second
- d. 2×10^8 bytes per second

Ans: c

18. RAID is a way to:

- a. Increase hard drive latency and performance
- b. Increase hard drive performance and decrease cost
- c. Increase hard drive reliability and performance
- d. Increase hard drive reliability and decrease cost

Ans: c

19. Which of these would not be a good way for the OS to improve battery lifetime in a laptop?

- a. Shut down the hard drive until it's needed
- b. Reduce the processor speed while it's idle
- c. Turn off power to the memory
- d. Shut down the modem when it's not connected

Ans: c

20. Which of the following is not included in an inode in Linux?

- a. File owner
- b. File name
- c. File modification date
- d. Pointer to the first data block

Ans: b

ITE208-Operating Systems

Multiple Choice Questions

1. Round robin scheduling is essentially the preemptive version of _____

- 1) FIFO
- 2) Shortest job first
- 3) Shortest remaining
- 4) Longest time first

Answer: FIFO

2. A page fault occurs

- 1) when the page is not in the memory
- 2) when the page is in the memory
- 3) when the process enters the blocked state
- 4) when the process is in the ready state

Answer: when the page is not in the memory

3. Let S and Q be two semaphores initialized to 1, where P0 and P1 processes the following statements wait(S);wait(Q); ---; signal(S);signal(Q) and wait(Q); wait(S);---;signal(Q);signal(S); respectively. The above situation depicts a _____ .

- 1) Semaphore
- 2) Deadlock
- 3) Signal
- 4) Interrupt

Answer: Deadlock

4.What is a shell ?

- 1) It is a hardware component
- 2) It is a command interpreter
- 3) It is a part in compiler
- 4) It is a tool in CPU scheduling

Answer: It is a command interpreter

5. Routine is not loaded until it is called. All routines are kept on disk in a relocatable load format. The main program is loaded into memory & is executed. This type of loading is called _____

- 1) Static loading
- 2) Dynamic loading
- 3) Dynamic linking
- 4) Overlays

Answer: Dynamic linking

6. In the blocked state

- 1) the processes waiting for I/O are found
- 2) the process which is running is found
- 3) the processes waiting for the processor are found
- 4) the process ready to execute

Answer: the processes waiting for I/O are found

7. What is the memory from 1K - 640K called ?

- 1) Extended Memory
- 2) Normal Memory
- 3) Low Memory
- 4) Conventional Memory

Answer: Conventional Memory

8.Virtual memory is _____.

- 1) An extremely large main memory
- 2) An extremely large secondary memory
- 3) An illusion of extremely large main memory
- 4) A type of memory used in super computers.

Answer: An illusion of extremely large main memory

9.The process related to process control, file management, device management, information about system and communication that is requested by any higher level language can be performed by _____.

- 1) Editors
- 2) Compilers
- 3) System Call
- 4) Caching

Answer: System Call

10.If the Disk head is located initially at 32, find the number of disk moves required with FCFS if the disk queue of I/O blocks requests are 98,37,14,124,65,67.

- 1) 310
- 2) 324
- 3) 315
- 4) 321

Answer: 321

11.The solution to Critical Section Problem is : Mutual Exclusion, Progress and Bounded Waiting.

- 1) The statement is false
- 2) The statement is true.
- 3) The statement is contradictory.
- 4) None of the above

Answer: The statement is true.

12.The problem of thrashing is effected scientifically by _____.

- 1) Program structure
- 2) Program size
- 3) Primary storage size
- 4) Secondary storgae

Answer: Program structure

13.Which of the following file name extension suggests that the file is Backup copy of another file ?

- 1) TXT
- 2) COM
- 3) BAS
- 4) BAK

Answer: BAK

14.The mechanism that bring a page into memory only when it is needed is called

-
- 1) Segmentation
 - 2) Fragmentation
 - 3) Demand Paging
 - 4) Page Replacement

Answer: Demand Paging

15.Switching the CPU to another Process requires to save state of the old process and loading new process state is called as _____.

- 1) Process Blocking
- 2) Context Switch
- 3) Time Sharing
- 4) Context sharing

Answer: Context Switch

16.Which directory implementation is used in most Operating System?

- 1) Single level directory structure
- 2) Two level directory structure

- 3) Tree directory structure
- 4) Acyclic directory structure

Answer: Tree directory structure

17. A thread

- 1) is a lightweight process where the context switching is low
- 2) is a lightweight process where the context switching is high
- 3) is used to speed up paging
- 4) none of the above

Answer: is a lightweight process where the context switching is low

18._____ is a high level abstraction over Semaphore.

- 1) Shared memory
- 2) Message passing
- 3) Monitor
- 4) Mutual exclusion

Answer: Monitor

19. Which module gives control of the CPU to the process selected by the short-term scheduler?

- 1) dispatcher
- 2) interrupt
- 3) long -term scheduler
- 4) short-term scheduler

Answer: dispatcher

20. In priority scheduling algorithm, when a process arrives at the ready queue, its priority is compared with the priority of

- 1) all process
- 2) currently running process
- 3) parent process
- 4) init process

Answer: currently running process

1. Assume that ‘C’ is a Counting Semaphore initialized to value ‘10’. Consider the following program segment:

P(C); V(C); P(C); P(C); P(C); V(C); V(C)
V(C); V(C); V(C); P(C); V(C); V(C); P(C)

What is the value of C?

- (a) 6
- (b) 12

- (c) 8
- (d) 10

Solution: Option (b)

2. Consider the following pseudo code fragment:

```
printf("Hello");  
if(!fork())  
printf("World");
```

Which of the following is the output of the code fragment?

- (a) Hello Hello World World
- (b) Hello World World
- (c) Hello World
- (d) Hello World Hello World

Solution: Option (c)

3. A scheduling algorithm assigns priority proportional to the waiting time of a process. Every process starts with priority zero (the lowest). The scheduler re-evaluates the process priorities every T time units and decides the next process to schedule. Which one of the following is true if the processes have no I/O operations and all arrive at time zero?

- a. This algorithm is equivalent to FCFS
- b. This algorithm is equivalent to Round Robin
- c. This algorithm is equivalent to SJF
- d. This algorithm is equivalent to Shortest Remaining Time First

Solution: Option (b)

4. The highest response ratio next Scheduling policy favors ‘X’ jobs, but is also limits the waiting time of ‘Y’ jobs. What are X and Y?

- (a) Shorter Jobs, Low Priority Jobs
- (b) Longer Jobs, High Priority Jobs
- (c) Longer Jobs, Shorter Jobs
- (d) Shorter Jobs, Longer Jobs

Solution: Option (d)

5. Which of the following instructions should be allowed only in Kernel Mode?

- (a) Disable all interrupts
- (b) Read the time-of-day clock
- (c) Set the time-of-day clock
- (d) Change the Memory Map

Solution: Option (a)

6. Consider the below code fragment:

```
if(fork k( ) == 0)
{
    a= a+5; printf("%d, %d \n", a, &a);
}
else
{
    a= a - 5;
    printf("%d %d \n", 0, &a);
}
```

Let u, v be the values printed by parent process and x, y be the values printed by child process. Which one of the following is true?

- (a) $u = x + 10$ and $v = y$
- (b) $u = x + 10$ and $v \neq y$
- (c) $u + 10 = x$ and $v = y$
- (d) $u + 10 = x$ and $v \neq y$

Solution: Option (a)

7. There are ‘m’ processes and ‘n’ instances of a Resource provided. Each process needs ‘P’ instances of the resource. In which case deadlock will never occur?

- (a) $(P - 1)m + 1 \leq n$
- (b) $(P - 1)m \leq n + 1$
- (c) $(P - 1)m + 1 < n$
- (d) $(P - 1)m \leq n + 1$

Solution: Option (a)

8. A system has a resource ‘Z’ with 20 instances; each process needs 5 instances to complete its execution. What is the minimum process in the system that may cause deadlock?

- (a) 4
- (b) 5
- (c) 10
- (d) 6

Solution: Option (b)

9. A solution to the Dining Philosopher’s problem which avoids Deadlock can be:

- (a) Ensure that all the Philosopher’s pick up the left fork before the right fork
- (b) Philosophers can select any fork randomly
- (c) Ensure that all the Philosophers except one pick up the left fork while that particular philosopher pick up right fork before left fork
- (d) Deadlock cannot be avoided

Solution: Option (c)

10. Which of the process transition is invalid?

- (a) Run → Ready
- (b) Suspend wait → Suspend ready
- (c) Wait/ Block → Run
- (d) Run → Terminate

Solution: Option (c)

11. The process in which of the following states will be in secondary memory?

- (a) New, Ready, Wait/Block
- (b) New, Wait/Block, suspend wait, Suspend ready
- (c) wait/Block, suspend wait, Suspend ready
- (d) New, suspend wait, Suspend ready

Solution: Option (d)

12. Degree of multiprogramming is controlled by

- (a) Long term schedule
- (b) Short term schedule

- (c) Medium term schedule
- (d) Depends on number of CPU's

Solution: Option (a)

13. Consider a system with ‘M’ CPU processors and ‘N’ processes then how many processes can be present in ready, running and blocked state at maximum

- (a) N, M, N
- (b) N, M, M
- (c) M, N, M
- (d) N, N+M, M

Solution: Option (a)

14. The main function of dispatcher is:

- (a) swapping a process to disk
- (b) assigning ready process to the CPU
- (c) suspending some of the processes when CPU load is high
- (d) bring processes from the disk to main memory

Solution: Option (b)

15. Consider ‘n’ processes sharing the CPU in a round robin fashion. Assume that the context switch takes ‘s’ seconds. What must be the quantum ‘q’ such that the overhead of context switching is minimized and at same time each process is getting guaranteed execution on the CPU atleast once in every ‘t’ seconds?

- (a) $q \leq (t - ns)/(n-1)$
- (b) $q \leq (t - ns)/(n+1)$
- (c) $q \geq (t - ns)/(n-1)$
- (d) $q \geq (t - ns)/(n+1)$

Solution: Option (a)

16. When two or more processes trying to execute a set of instructions and if the output depends on the order of execution of the process, this is termed as:

- (a) Critical section
- (b) Race condition
- (c) Synchronization

(d) Progress

Solution: Option (c)

17. Consider the processes P1, P2, P3, P4 whose arrival times are 0, 2, 3, 5 and burst times are 7, 4, 2, 4 respectively. What is the average TAT and average WT if they follow Shortest Remaining Time First scheduling algorithm?

(a) 8.5, 3.5

(b) 8, 3.75

(c) 6, 3

(d) 4,5

Solution: Option (b)

18. If $\alpha=0.4$ and $T_1=10$. Consider the actual burst times of t_1, t_2, t_3 are 5, 7, 2 respectively. What is the predicted burst time of t_4 using Exponential Average method?

(a) 3.36

(b) 4.3

(c) 5.36

(d) 6.66

Solution: Option (c)

19. In Multi-Processing Operating Systems:

(a) Maximum utilization of CPU can be achieved

(b) Maximum throughput is achieved

(c) Maximum security can be achieved

(d) Not suitable for Real Time Applications

Solution: Option (a)

20. A system has ‘n’ processes and each process need 2 instances of a resource. There are $n+1$ instances of resource provided. This could:

(a) lead to deadlock

(b) lead to starvation & the deadlock

(c) never leads to deadlock

(d) leads to inconsistency

Solution: Option (c)

1) The following HTML element is used to display horizontal line

- A.

- B. <h>
- C. <hr>
- D. <h2>

Answer: C

2) The following HTML _____ element contains meta data which is not displayed inside the document.

- A. <form>
- B. <title>
- C. <table>
- D. <frame>

Answer: B

3) <h2 style="color:blue">I am Blue</h2> is _____ way of styling HTML elements

- A. Inline style
- B. Internal style
- C. External style
- D. Default

Answer: A

4) The following HTML element helps making animated text

- A.
- B. <ins>
- C. <mark>
- D. <marquee>

Answer: D

5) will specify _____ font

- A. Lucida Calligraphy
- B. Lucida Console
- C. first available font installed on computer
- D. last available font installed on computer

Answer: C

- 6) _____ is used to define a special CSS style for a group of HTML elements
- A. class attribute
 - B. name attribute
 - C. group attribute
 - D. id attribute

Answer: A

- 7) The following HTML attribute is used to specify the URL of the html document to be opened when a hyperlink is clicked.
- A. SRC
 - B. HREF
 - C. LINK
 - D. PATH

Answer: B

- 8) Which of these will create a shuffled list?
- A.
 - B.
 - C. <dl>
 - D. Nested list

Answer: D

- 9) The _____ attribute defines the action to be performed when the form is submitted
- A. method attribute
 - B. action attribute
 - C. onSubmit attribute
 - D. onClick attribute

Answer: B

- 10) Internet backbone refers to _____
- A. Web browser
 - B. Web server
 - C. Data
 - D. Data route

Answer: C

11) _____ is referred to as Static Web

- A. Web 1.0
- B. Web 2.0
- C. Web 3.0
- D. Web 4.0

Answer: C

12) What does JSP stand for?

- A. Java Scripting Pages
- B. Java Service Pages
- C. Java Server Pages
- D. Java Script Program

Answer: C

13) How do you write "Hello World" in PHP?

- A. using System.out.println
- B. using Document.Write("Hello World")
- C. "Hello World"
- D. using echo("Hello World")

Answer: D

14) What are the parameters of the service method?

- A. ServletRequest and ServletResponse
- B. HttpServletRequest and HttpServletResponse
- C. HttRequest and HttResponse
- D. Request and Response

Answer: B

15) How does servlet differ from CGI?

- A. Light weight Process
- B. Open source
- C. Simple
- D. Easy to remember

Answer: A

16) Which is the right declaration Tag in JSP?

- A. <%! %>

- B. <%@%>)
- C. <% %>
- D. <%= %>)

Answer: A

17) The servlet life cycle has the following cycle.

- A. Init destroy service
- B. Service destroy
- C. Init service destroy
- D. Init service

Answer: C

18) How many times service() method will be executed in a servlet life cycle?

- A. Twice
- B. As many as client requests
- C. As many as server responds
- D. Once

Answer: B

19) In HTTP, which method gets the resource as specified in the URI

- A. GET
- B. POST
- C. PUT
- D. TRACE

ANSWER: A

20) Which of the following is not a session management technique in Servlet

- A. Password <form> field
- B. Hidden <form> field
- C. Cookies
- D. Session API

ANSWER A

Web Technology

OBJECTIVE TYPE QUESTIONS

1. What should be the first tag in any HTML document?

- a. <head>
- b. <title>
- c. <html>
- d. <document>

Ans :

2. How can you make a bulleted list?

- a. <list>
- b. <nl>
- c.
- d.

Ans :

3. What is the correct HTML for making a hyperlink?

- a. ICT Trends Quiz
- b. ICT Trends Quiz
- c. <[http://mcqsets.com](#)>
- d. url="[http://mcqsets.com](#)">ICT Trends Quiz

Ans :

4. Choose the correct HTML tag to make a text italic

- a. <ii>
- b. <citalics>
- c. <italic>
- d. <i>

Ans :

5. What is the correct HTML for adding a background color?

- a. <body color="yellow">
- b. <body bgcolor="yellow">
- c. <background>yellow</background>
- d. <body background="yellow">

Ans :

6. Which attribute is used to name an element uniquely?

- a. class
- b. id
- c. dot
- d. all of above

Ans :

7. What is the full form of HTTP?

- a. Hyper text transfer protocol
- b. Hyper text transfer package
- c. Hyphenation text test program
- d. none of the above

Ans :

8. What is the correct way of describing XML data?

- a. XML uses a DTD to describe data
- b. XML uses a description node to describe data
- c. XML uses XSL to describe the data
- d. XML uses a validator to describe the data

Ans :

9. Which of the following can't be done with client-side JavaScript?

- A. Validating a form
- B. Sending a form's contents by email
- C. Storing the form's contents to a database file on the server
- D. None of the above

Ans :

10. What is the correct JavaScript syntax to write "Hello World"?

- A. System.out.println("Hello World")
- B. println ("Hello World")
- C. document.write("Hello World")
- D. response.write("Hello World")

Ans :

11. What is the correct syntax for referring to an external script called " abc.js"?

- A. <script href=" abc.js">
- B. <script name=" abc.js">
- C. <script src=" abc.js">
- D. None of the above

Ans :

12. How to create a Date object in JavaScript?

- A. dateObjectName = new Date([parameters])
- B. dateObjectName.new Date([parameters])
- C. dateObjectName := new Date([parameters])
- D. dateObjectName Date([parameters])

Ans :

13. <script type="text/javascript">

```
x=4+"4";
document.write(x);
</script>
```

Output-----?

- A. 44
- B. 8
- C. 4
- D. Error output

Ans :

14. <script type="text/javascript">

```
var s = "9123456 or 80000?";
var pattern = /\d{4}/;
var output = s.match(pattern);
document.write(output);
</script>
```

- A. 9123
- B. 91234
- C. 80000
- D. None of the above

Ans :

15. What makes Ajax unique?

- A. It works as a stand-alone Web-development tool.
- B. It works the same with all Web browsers.
- C. It uses C++ as its programming language.
- D. It makes data requests asynchronously.

Ans :

16. What does the XMLHttpRequest object accomplish in Ajax? | Ajax

- A. It's the programming language used to develop Ajax applications.
- B. It provides a means of exchanging structured data between the Web server and client.
- C. It provides the ability to asynchronously exchange data between Web browsers and a Web server.
- D. It provides the ability to mark up and style the display of Web-page text.

Ans :

17. AJAX made popular by | Ajax

- A. Microsoft
- B. IBM
- C. Sun Micro system
- D. Google

Ans :

18. Which one of the following function is used to start a session?

- A. start_session()
- B. session_start()
- C. session_begin()
- D. begin_session()

Ans :

19. If the directive session.cookie_lifetime is set to 3600, the cookie will live until..

- A. 3600 sec
- B. 3600 min
- C. 3600 hrs
- D. the browser is restarted

Ans :

20. When you want to store user data in a session use the . . . array.

- A. \$_SESSION
- B. SYS_SESSION
- C. \$SESSION
- D. \$_SESSIONS

Ans :

1. What does the following bit of JavaScript print out?

```
var a = [1,,3,4,5];
console.log([a[4], a[1], a[5]]);
```

a) 5, undefined,undefined

b) 5,3,undefined

c) 5,0,undefined

d) 5,null,undefined

2. Web applications are frequently constructed as a distributed system utilizing a multitiered architecture with three tiers. They are:

a) Browser, Server, Database

b) Model,View, Controller

c) Browser,Service,Database

d) Model,View,Service

3. Which selector is used by applying a specific style for a group of elements?

a)class

b)style

c)h1

d)id

4. Which method is used to remove the first element of an Array object?

a)pop()

b)push()

c)shift()

d)unshift()

5. Which of these methods returns x ,rounded downwards to the nearest integer?

a)ceil()

b)floor()

c)abs()

d)round()

6. Where in an HTML document is the correct place to refer to an external style sheet?

a) At the top of the document

b) At the end of the document

c) In the <body> section

d) In the <head> section

7. Which is the correct CSS syntax?

- a) body:color=black
- b) {body;color:black}
- c) {body:color=black(body)}
- d) body {color: black}**

8. What is the correct CSS syntax for making all the <p> elements bold?

- a) <p style="text-size:bold">
- b) <p style="font-size:bold">
- c) p {font-weight:bold}**
- d) p {text-size:bold}

9. To link your Web page to a style sheet, you must use the _____ tag.

- a) <STYLESHEET>
- b) <STYLE>
- c) <LINK>**
- d) <WEB>

10. How can you create an e-mail link?

- a) **
- b) <mail href="xxx@yyy">
- c) <mail>xxx@yyy</mail>
- d)

Which of these tags are all <table> tags?

- A. <table><head><tfoot>
- B. <thead><body><tr>
- C. <table><tr><td>
- D. <table><tr><tt>

ANSWER: C

How can you make a list that lists the items with numbers?

- A. <list>
- B.
- C.
- D. <dl>

ANSWER: B

Choose the correct HTML to left-align the content inside a tablecell

- A. <tdleft>
- B. <td leftalign>

C. <td valign="left">

D. <td align="left">

ANSWER: D

HTTP is

A. a network layer protocol

B. an application layer protocol

C. a transport layer protocol

D. a network interface layer protocol

ANSWER: B

Click. This code

A. Opens a blank window

B. Opens 1.html in the same window

C. Opens 1.html in new window

D. Opens default page in new window

ANSWER: C

In HTTP, which method gets the resource as specified in the URI

A. GET

B. POST

C. PUT

D. TRACE

ANSWER: A

Which of these is not a valid attribute of <tr> element?

A. valign

B. bgcolor

C. align

D. rowspan

ANSWER: D

Which attribute is used to specify the path of the image in element?

A. href

B. src

C. path

D. link

ANSWER: B

1.

Build & Fix Model is suitable for programming exercises of _____ LOC (Line of Code)

ANS:100/200 lines

2.Entity Set

An _____ is a set of entities of the same type that share the same properties, or attributes .

3.

Predict the output of following C++ program

```
#include  
using namespace std;
```

```
class Empty {};
```

```
int main()
```

```
{
```

```
    cout << sizeof(Empty);
```

```
    return 0;
```

```
}
```

```
//output :1
```

Sizeof(empty)+non zero value

4. One operation that is not given by magnitude comparator.

Ans-magnitude doesn't add

5. Round robin scheduling is essentially the preemptive version of _____ ?

Ans- FIFO

6. A page fault occurs ?

ANS:-when page is not found in the memory.

7. RAD stands for _____

Ans:-Rapid Application Development

8. Which of the following is true?
9. Adding 1001 and 0010 gives output of

Ans:- **1011**

10. Entity is a _____

Ans:- **Thing in real world**

11. _____ model is suitable for software development ,when the requirements are well defined

Ans:-**WaterFall/Sequential/Stepbystep model**

12. Which of the following will determine your choice of systems software for your computer?

- 1 Is the applications software you want to use compatible with it ?
- 2 Is it expensive ?
- 3 Is it compatible with your hardware ?
- 4 Both 1 and 3

ANS:-Both 1 and 3

13. The descriptive property possessed by each entity set is _____ .

ANS:-Attribute

14. predict the output of following program.

```
#include  
using namespace std;  
  
class A  
{  
protected:  
    int x;  
public:  
    A() {x = 0;}  
    friend void show();  
};  
  
class B: public A
```

```

{
public:
    B0 : y (0) {}

private:
    int y;

};

void show()
{
    A a;
    B b;

    cout << "The default value of A::x = " << a.x << " ";
    cout << "The default value of B::y = " << b.y;
}

```

Compiler Error in show() because y is private in class b

15. Magnitude comparator compares using operation of

ANS:- 1 circuit

16 What is a shell ?

ANS:- command interpreter

17. The function that an entity plays in a relationship is called that entity's _____.

ANS:-ROLE

18. A Boolean function may be transformed into

ANS:- logical diagram

19. Operator overloading is

20. _____ refers to user interface prototype

21. A _____ is a more complete elaboration of a single subsystem or function

ANS:-VERTICAL PROTOTYPE

22. Inheritance is a way to

ANS:-inheritance

23. Routine is not loaded until it is called. All routines are kept on disk in a relocatable load format. The main program is loaded into memory & is executed. This type of loading is called... ?

ANS:-Dynamic linking

24. The attribute name could be structured as a attribute consisting of first name, middle initial, and last name . This type of attribute is called _____

ANS:-composite

25. Is it possible to find two algebraic expressions that specify same function

ANS:-YES

29 _____ refers to the creation of a model that will eventually be discarded rather than becoming part of the final delivered software.

ANS:-Throwaway or rapid prototype

30. The attribute AGE is calculated from DATE_OF_BIRTH . The attribute AGE is _____

ANS_- DERIVED

31. A memory buffer used to accommodate a speed differential is called

ANS:-CACHE

32. Not applicable condition can be represented in relation entry as

ANS:-NULL

33. X=1010100 and Y=1000011 using 2's complement X-Y is

ANS:-10001

34. Runtime polymorphism can be achieved by

ANS:-Virtual function

35. _____ acknowledges that we do not understand all the requirements and builds only those that are well understood

ANS:-Evolutionary prototyping

36. X=1010100 and Y=1000011 using 1's complement Y-X is

ANS:- -10001

37. The use of constructor is

ANS:-CREATE OBJECT

38. Which one of the following is the address generated by CPU?

ANS:- LOGICAL ADDRESS

39. _____ provides a broad view of an entire system or subsystem, focusing on user interaction more than low-level system functionality, such as database access.

ANS:- Horizontal prototype

40. Which of the following can be a multivalued attribute ?

ANS:-Phone number

41. Table that is not a part of asynchronous analysis procedure

ANS:-excitation table

42. In object orient programming classes are useful because they

43. Which of the following is a single valued attribute

ANS:-REG.NO

44. Run time mapping from virtual to physical address is done by:

ANS:- Memory management

45. _____ clarifies complex requirements by drilling down to actual system functionality.

ANS:-Vertical Prototype

46. Memory management technique in which system stores and retrieves data from secondary storage for use in main memory is called:

ANS:-Paging

47. What is the output of the program

```
#include<iostream.h>
```

```
void main()
```

```
{
```

```
    int n=1;
```

```
    cout<<endl<<"The numbers are;"<<endl;
```

```
    do
```

```
    {
```

```
        cout <<n<<"\t";
```

```
        n++;
```

```
    } while (n<=100);
```

```
    cout <<endl;
```

```
}
```

ANS:-Natural numbers 1 to 100.

48. _____ can be suited to projects where requirements and scope are fixed, the product itself is firm and stable, and the technology is clearly understood

ANS:-Waterfall

49. In a relation between the entities the type and condition of the relation should be specified . That is called as_____attribute

ANS:-Descriptive

50.. Shift registers are used for

ANS:- Shifting and rotating

51. In the _____ normal form, a composite attribute is converted to individual attributes.

ANS:- 1NF

52. Two variables will be represented by

ANS:-four minterms

53. cout stands for

ANS:-Console Output/Character output

54. The address of a page table in memory is pointed by:

ANS:-Stack Pointer

55. _____ acknowledge the programmatic need for milestones, for keeping a project on track, but encourage iterations

ANS:-RATIONAL UNIFIED PROCESS(RUP)

```
56.#include <iostream>
```

```
using namespace std;
```

```
int main ()
```

```
{
```

```
cout << (3 > 4 && 3 > 1) << endl;
```

```
return 0;
```

```
}
```

ANS:- 0

57. Adjacent squares represents a

ANS:-Literals

58. _____ describes the spiral model as a "process model generator", where choices based on a project's risks generate an appropriate process model for the project.

ANS:-unique risk patterns

59. A table on the many side of a one to many or many to many relationship must:

ANS:-have a composite key

60. Program always deals with:

ANS:-LOGICAL ADDRESS

61. Tables in second normal form (2NF):

ANS:-Eliminate hidden dependencies

62. Eight minterms will be used for

ANS:- 3 Variables

63. What will be the output of the this program?

```
#include <iostream>

using namespace std;

int main ()
{
    int array[] = {0, 2, 4, 6, 7, 5, 3};

    int n, result = 0;

    for (n = 0 ;n < 5 ;n++)
    {
        result += billy[n];
    }

    cout << result;

    return 0;
}
```

ANS:- NONE of the above

64. _____ is an agile software development technique in which two programmers work together at one workstation

ANS:-Pair Programming

65The page table contains:

ANS:-Base address of each page in memory

66. What is the output of this program?

```
#include <iostream>

using namespace std;

int main()
{
    int arr[] = {4, 5, 6, 7};
```

```
int *p = (arr + 1);

cout << *p;

return 0;

}
```

ANS:- 5

67. Functional Dependencies are the types of constraints that are based on_____

ANS:-KEY

68. What is compaction?

ANS:-

69. _____ is often used for risk management when an exceptional risk that, though unlikely, would have catastrophic consequences.

ANS:-Contingency plan

70. Minterms are arranged in map in a sequence of gray code

ANS:- Gray code

71. Operating System maintains the page table for:

ANS:-Each Process

72The _____ is a software development process intended to produce software with a certifiable level of reliability.

ANS:-Cleanroom software engineering

73. Which is a bottom-up approach to database design that designs by examining the relationship between attributes:

ANS:-Normalization

74. A circuit that converts n inputs to 2^n outputs is called

ANS:- DECODER

75. Which constructor will initialize the base class data member?

ANS:-BASE Class

76. The _____ is an iterative software development process framework created by the Rational Software Corporation

ANS:-RUP

77. Which forms simplifies and ensures that there is minimal data aggregates and repetitive groups:

ANS:- 3NF

78. When overloading unary operators using Friend function, it requires____ argument/s.

ANS:- ONE

79. The operating system is :

ANS: Interface between user program and hardware

80. Encoders are made by three

ANS:-OR-GATE

81. What is difference between protected and private access specifiers in inheritance?

ANS:-Private methods are usually visible to class instances (internal implementations),**protected** methods are visible to subclasses and classes in the same package

82. The primary objective of _____ is to scope the system adequately as a basis for validating initial costing and budgets.

ANS:-RUP

83. In contiguous memory allocation :

ANS:-each process is contained in a single contiguous section of memory

84. Decoder is a

ANS:-Combinational circuit

85. Which forms are based on the concept of functional dependency

ANS:- 3NF

86. The relocation register helps in :

ANS:-Protect address space

87. Which of the following is incorrect statement about packages?

ANS:-

88. BCD to seven segment is a

ANS:-DECoder

89. The RUP has determined a project life-cycle consisting of____ phases.

ANS:- 4Phases

90. Empdt1(empcode, name, street, city, state,pincode).

For any pincode, there is only one city and state. Also, for given street, city and state, there is just one pincode.
In normalization terms, empdt1 is a relation in

ANS:-2NF and 1NF

91. One that is not type of flip-flop is

ANS:- UT

92. A relational database consists of a collection of

ANS:-TABLES

93. With relocation and limit registers, each logical address must be _____ the limit register.

ANS:-Less than

94. The primary objective of_____ phase is to mitigate the key risk items identified by analysis up to the end of this phase.

ANS:-Elaboration phase

95. Which two are valid constructors for Thread?

ANS:- 1 and 2

Thread(Runnable r, String name)

Thread()

Thread(int priority)

Thread(Runnable r, ThreadGroup g)

Thread(Runnable r, int priority)

96. class X implements Runnable

```
{  
    public static void main(String args[]){  
        /* Missing code? */  
    }  
    public void run() {}  
}
```

Which of the following line of code is suitable to start a thread ?

ANS:- x.run();

Run;

t.start();

```
new Thread(new  
MyRunnable()).start  
()
```

97. A _____ in a table represents a relationship among a set of values.

ANS:-ROW

98. The operating system and the other processes are protected from being modified by an already running process because :

ANS:-every address generated by the CPU is being checked against the relocation and limit registers

99. Traditional software development approach is based on____

ANS:-

100. Flip-flops can be constructed with two

ANS:- **2NAND**

101.

1. RS flip-flops are also called **GATED SR FLIP-FLOP**

102.

Assume the following method is properly synchronized and called from a thread A on an object B:

wait(2000);

After calling this method, when will the thread A become a candidate to get another turn at the CPU?

AFTER A IS NOTIFIED OR AFTER 2 SEC

103.

The term _____ is used to refer to a row.

A:**TUPLE**

104.

_____ uses same language to talk about analysis,design,programming and database design

ANS:**Object oriented approach**

105.

In fixed sized partition, the degree of multiprogramming is bounded by **THE NUMBER OF POSITIONS**

106.

UA/UML is an approach to software development that allows us to create objects that represent tangible elements of the business independent of how they are represented to the user through an interface or physically stored in a database.

107. Decimal digit in BCD can be represented by **4 INPUT LINE**

108.

The first fit, best fit and worst fit are strategies to select a _partition selection policy

FREE HOLE FROM A SET OF AVAILABLE HOLES

109.

Which class or interface defines the wait(), notify() and notifyAll() methods? **OBJECT**

110.

The term attribute refers to a _____ of a table.

ans:**COLUMN**

111.

For each attribute of a relation, there is a set of permitted values, called **the DOMAIN** of that attribute.

112.

ANALYSIS prototype is an aid for exploring the problem domain

113.

. In BCD no. **1010** has **NO MEANING**

114.

A solution to the problem of external fragmentation is :**COMPACTON**

115.

```
public class MyRunnable implements Runnable
{
    public void run()
    {
        // some code here
    }
}
```

which of these will create and start this thread?

newthread(new myRunnable()).start();

116.

Database **SCHEMA,INSTANCE**, which is the logical design of the database

117.

Another solution to the problem of external fragmentation problem is to :

PERMIT THE LOGICAL ADDRESS SPACE TO BE NC

118.

VALIDATION is the task of predicting correspondence

119.

OR TERMS To perform product of maxterms Boolean function must be brought into

120.

What will be the output of the sample code?

```
public class Foo
{
    public static void main(String[] args)
    {
        try
        {
            return;
        }
        finally
        {
            System.out.println( "Finally" );
        }
    }
}
```

FINALLY

121.

What will be the output of the sample program?

```
try
{
    int x = 0;
    int y = 5 / x;
}
catch (Exception e)
{
    System.out.println("Exception");
}
catch (ArithmetricException ae)
{
    System.out.println(" Arithmetic Exception");
}
System.out.println("finished");
```

COMPILATION FAILS

122. In excitation table of D flipflop next state is equal **to D STATE**

123.

VERIFICATION is the process of determining correctness.

124.

Database **INSTANCE**, which is a snapshot of the data in the database at a given instant in time

125.

If relocation is static and is done at assembly or load time, compaction **CANT BE DONE**

126.

A domain is atomic if elements of the domain are considered to be **INDIVISIBLE** units.

127.

What will be the output of the sample program?

```
public class X
{
    public static void main(String [] args)
    {
        try
        {
            badMethod();
            System.out.print("A");
        }
        catch (Exception ex)
        {
            System.out.print("B");
        }
        finally
        {
            System.out.print("C");
        }
        System.out.print("D");
    }
}
```

```
}

public static void badMethod()

{

    throw new Error();

}

}
```

C IS PRINTED BEFORE EXIT WITH ERROR MESSAGE

128.

The disadvantage of moving all process to one end of memory and all holes to the other direction, producing one large hole of available memory is :**COST**

129.

RAD approach to systems development rapidly develops software to quickly and incrementally implement the design by using tools such as **CASE**.

130. $x+y=z$ represents operation that is **OR GATE**

131.

External fragmentation will not occur when : **no matter which algorithm is used, it will always occur**

132.

Objects are grouped **into CLASS**

133.

The tuples of the relations can be of **ANY** order.

134.

What is the result of compiling and running this program?

```
class Mammal{
    void eat(Mammal m){
        System.out.println("Mammal eats food");
    }
}

class Cattle extends Mammal{
    void eat(Cattle c){
        System.out.println("Cattle eats hay");
    }
}

class Horse extends Cattle{
    void eat(Horse h){
        System.out.println("Horse eats hay");
    }
}

public class Test{
    public static void main(String[] args){
        Mammal h = new Horse();
        Cattle c = new Horse();
        c.eat(h);
    }
}
```

MAMMAL EATS FOOD

135.

1. Design procedure of combinational circuit involves **6 STEPS**

136.

HORIZONTAL prototype is a simulation of the user interface

137.

Sometimes the overhead of keeping track of a hole might be :**LARGER THAN THE HOLE**

138.

class X, class Y and class Z are derived from class BASE. This is **HIERARCHIAL inheritance**

139.

Which one of the following is a set of one or more attributes taken collectively to uniquely identify a record?
SUPER KEY

140.

1. In design procedure input output values are assigned with **LETTER SYMBOLS**

141.

When the memory allocated to a process is slightly larger than the process, then : **INTERNAL FRAGMENT**

142 **Component based development** is an industrialized approach to software development

143.

The derivation of Child class from Base class is indicated by : **symbol.**

144.

Output of AND gates in SOP is connected to **OR GATE**

145.

Consider attributes ID , CITY and NAME . Which one of this can be considered as a super key ? **ID**

146.

Mod-6 and mod-12 counters are most commonly used in **DIGITAL CLOCK**

147.

During a class inheritance in CPP, if the visibility mode or mode of derivation is not provided, then by default visibility mode is **PRIVATE**

148.

Because of virtual memory, the memory can be shared among: **PROCESSES**

149.

The subset of super key is a candidate key under what condition ?

NO SUBSET IS A SUPER KEY

150.

MVC stands for **MODEL VIEW CONTROLLER**

151.

How many illegitimate states has synchronous mod-6 counter ? **3**

152.

If the derived class is struct, then default visibility mode is **PUBLIC**

153.

Events are translated to ____ **requests**, which are sent either to the model or to the view

154.

A **KEY** is a property of the entire relation, rather than of the individual tuples in which each tuple is unique.

155.

DEMAND PAGING is the concept in which a process is copied into main memory from the secondary memory according to the requirement.

156.

The pager concerns with the: **INDIVIDUAL PAGE OF PROCESS**

157.

A attribute in a relation is a foreign key if the **PRIMARY** key from one relation is used as an attribute in that relation .

158.

The clock signals are used in sequential logic circuits to **SYNCHRONIZE EVENTS**

159.

OBJECT encapsulates core data and functionality.

160.

When a base class is privately inherited by the derived class, then _____

**protected members of the base class become private members of derived class
public members of the base class become private members of derived class**

161.

Swap space exists in: **SECONDARY MEMORY**

162 All key stakeholders gathers together for a short but intensely focused period for **WORKSHOP**

163.

The relation with the attribute which is the primary key is referenced in another relation. The relation which has the attribute as primary key is called **REFERENCING RELATION**

164.

To build a mod-19 counter the number of flip-flops required is **5**

165.

What is the difference between protected and private access specifiers in inheritance?

protected member is inheritable and also accessible in derived class.

166.

In Multipath inheritance, in order to remove duplicate set of records in child class then

Make base class as virtual base class

167. The main difference between JK and RS flip-flop is that

JK flip-flop accepts both inputs 1

168.

The **REFERENTIAL RELATION** is the one in which the primary key of one relation is used as a normal attribute in another relation .

169.

Class diagram is a **STRUCTURAL** aspect of collaboration

170. When a program tries to access a page that is mapped in address space but not loaded in physical memory, then? **PAGE FAULT ERROR**

171.

A **REFERENTIAL** integrity constraint requires that the values appearing in specified attributes of any tuple in the referencing relation also appear in specified attributes of at least one tuple in the referenced relation.

172.

Effective access time is directly proportional to: **PAGE FAULT RATE**

173.

Which of the following unit will choose to transform decimal number to binary code ? **ENCODER**

174 In a MIN-Heap **PARENT<CHILD/MAX HEAP:P>CHILD**

175.

PERT chart is a tool that depicts project as network diagram that is capable of graphically representing main events of project in both parallel and consecutive way

176.

In FIFO page replacement algorithm, when a page must be replaced: **OLD PAGE IS CHOSEN**

177.

QUALITY is usually expressed in terms of bugs/LOC.

178

Relational Algebra is a **PROCEDURAL** query language that takes two relation as input and produces another relation as output of the query.

179.

Floating point representation is used to **store REAL INT**

180.

Which one of the below mentioned is not a linear data structure **TREE**

181.

Which algorithm chooses the page that has not been used for the longest period of time whenever the page required to be replaced? **LRU**

182.

Which of the following is a fundamental operation in relational algebra ? **NONE**

The fundamental operations are select, project, union, set difference, Cartesian product, and rename

183.

The conditions that must be present in order to start a use case is **pre-conditions**

184.

Quick sort algorithm is an example of **DIVIDE AND CONQUER**

185.

Assembly language

186 The idea of cache memory is based **LOCALITY OF REFERENCE**

187.

FAST stands for **FACILITATED APPLE SPECIFIC TECHNIQUE**

188.

Binary search tree has best case run-time complexity of $\Theta(\log n)$. What could the worst case? **O(N)**

189.

Which of the following is used to denote the selection operation in relational algebra ?**SIGMA**

190 A process is thrashing if:

IT SPENDS LOT OF TIME PAGING

191.

_____ diagrams are called as Implementation diagram.

Ans:**component**

192.

Working set model for page replacement is based on the assumption of:

Ans:**locality**

193.

For select operation the _____ appear in the subscript and the _____ argument appears in the parenthesis after the sigma.

Predicate,relation

194.Match the following -

(1) Bubble Sort

(A) $\Theta(n)$

(2) Shell Sort

(B) $\Theta(n^2)$

(3) Selection Sort

(C) $\Theta(n \log n)$

Ans:3b,2c,1a

195.

Which of the following is lowest in memory hierarchy?

Ans:**Secondary memory**

196.

If the disk head is located initially at 32, find the number of disk moves required with FCFS if the disk queue of I/O blocks requests are 98, 37, 14, 124, 65, 67.

Ans:**274+59**

197.

_____emphasize the use of events and states to determine the overall activity of the system.

ANS:**State diagram**

198. Apriory algorithm analysis does not include **STATE DIAGRAM**

199.

The addressing mode used in an instruction of the form ADD X Y, is **INDEX**

200.

The **SET DIFFERENCE** operation, denoted by $-$, allows us to find tuples that are in one relation but are not in another.

201.

Which is a unary operation: **GENERALIZED SOLUTION**

202.

In a vectored interrupt

. . . **the interrupting source supplies the branch information to the processor through an interrupt vector**

203.

Which of the following memory allocation scheme suffers from external fragmentation? **SEGMENTATION**

204.

Which of these is a mechanism for naming and visibility control of a class and its content? **PACKAGES**

205.

DEPLOYMENT diagrams show the configuration of run time processing elements and the software components, processes and objects that live in them

206.

Which of the following is correct way of importing an entire package 'pkg'? **IMPORT PACKAGE *;**

207.

Von Neumann architecture **is SISD**

208.

Consider a system having m resources of the same type. These resources are shared by 3 processes A, B and C which have peak demands of 3, 4 and 6 respectively. For what value of m deadlock will not occur ? **13/15**

209.

Which is a join condition contains an equality operator: **EQUI JOIN**

210.

FINAL state in a state chart is shown as a circle surrounding a small dot,a bull's- eye.

211.

What is the output of this code?

```
package pkg;  
class display {  
    int x;  
    void show() {  
        if (x > 1)  
            System.out.print(x + " ");  
    }  
}  
  
class packages {  
    public static void main(String args[]) {  
        display[] arr=new display[3];  
        for(int i=0;i<3;i++)  
            arr[i]=new display();  
        arr[0].x = 0;  
        arr[1].x = 1;  
        arr[2].x = 2;  
        for (int i = 0; i < 3; ++i)  
            arr[i].show();  
    }  
}
```

ANS 2

212.

in the textual description are considered to be methods of classes

ANS:NOUNS as classes and verbs as the method of classes

213.

Cache memory acts between **CPU AND RAM**

214.

In precedence of set operators the expression is evaluated from **LEFT TO RIGHT**

215.

Pre-emptive scheduling is the strategy of temporarily suspending a running process **BEFORE CPU EXPIRES**

216.

Resources are allocated to the process on non-sharable basis is **MUTUAL EXCLUSION**

217.

Write Through technique is used in which memory for updating the data **CACHE MEMORY**

218.

Which of these interface declares core method that all collections will have? **COLLECTION**

219.

A _____ is a function or procedure that is defined for a class and typically can access the internal state of an object of that class to perform some operation

ALL(METHOD)

220.

Which of the following is not outer join ?

221.

In round robin CPU scheduling as time quantum is increased the average turn around time VARIES **IRREGULARLY**

222 Which of these interface is not a part of Java's collection framework? **MAPS**

223.

Inheritance is the property of object-oriented systems that allows objects to be built from other

224.

Generally Dynamic RAM is used as main memory in a computer system as it **HIGH SPEED**

225.

In precedence of set operators the expression is evaluated **from LEFT TO RIGHT**

226 A message is much more general than a _____.

227.

Which of these is an example of a virtual resource?

Print server, Virtual machine, Virtual memory

228.

Which of these methods can randomize all elements in a list? **SHUFFLE**

229.

In signed-magnitude binary division, if the dividend is (11100) 2 and divisor is (10011) 2 then the result is **10100**

230.A collection of data designed to be used by different people is called a/an **DATABASE**

231.

Which of these is not a term describing the collection of Operating Programs

SERVER

232.

Which of the following is the oldest database model?

NETWORK

233. Thread class is available in **JAVA.LANG**

234.

ABSTRACT CLASS have no instances but define the common behaviors that can be inherited by more specific classes

235.

In a program using subroutine call instruction, it is necessary **CLEAR THE INSTRUCTION REGISTER**

236.

Which of the following schemas does define a view or views of the database for particular users? **EXTERNAL SCHEMA**

237.

A Stack-organised Computer uses instruction of **ZERO ADDRESSING**

238.

DEFAULT CONSTRUCTOR

The following program is an example for?

```
class Student{  
    int id;  
    String name;  
    void display(){System.out.println(id+" "+name);}  
    public static void main(String args[]){
```

```
Student s1=new Student();
Student s2=new Student();
s1.display();
s2.display();
}
```

239.

PROTOTYPE is a version of software product developed in the early stages of product's life cycle for specific and experimental purposes.

240.

Applications like Banking and reservations require which type of OS?

SOFT REAL TIME

241.

The following two statements illustrate the difference between a

```
int x = 25;
```

```
Integer y = new Integer(33); PRIMITIVE AND WRAPPER
```

242 If the main memory is of 8K bytes and the cache memory is of 2K words. It uses associative mapping. Then each word of cache memory shall be **16 BITS**

243.

Which of the following is an attribute that can uniquely identify a row in a table?

CANDIDATE KEY

244.

Which OS employs the techniques of fault tolerance and graceful degradation to ensure continuity of operation?
REAL TIME

245.

A **FUNCTION** is an implementation of an object's behavior

246.

When CPU is executing a Program that is part of the Operating System, it is said to **SYSTEM MODE**

247.

In an absolute loading scheme, which loader function(s) is (are) accomplished by programmer
REALLOCATION

248.

Trees are examples of which type of data structure **NON-LINEAR**

249.

Which of the following is the process of selecting the data storage and data access characteristics of the database? **PHYSICAL DATABASE DESIGN**

250.

Use-case is a scenario depicting a user system interaction

251.

Graphs are examples of which type of data structure **NON-LINEAR**

252.

In virtual memory systems, Dynamic address translation **H/W FOR PAGING**

253.

PSW is saved in stack when there is a **INTERUPPT REQ**

254.

A **DESIGN PATTERN INTEGRITY** is instructive information that captures the essential structure and insight of a successfully family of proven solutions to a recurring problem that arises within certain context and system of forces

255

Which of the following terms does refer to the correctness and completeness of the data in a database?
INTEGRITY

256.

The relationship between DEPARTMENT and EMPLOYEE is a **1 TO MANY**

257.

Which of the following sorts does not use an array structure ?

258.

_____ can be viewed as a collection of procedures or behaviours that, taken together, reflect the behaviour of a system over time.

ANS:**Object Behaviour**

259.

Page table level that says if page has been modified, is known as **DIRTY**

260.

The multiplicand register & multiplier register of a hardware circuit implementing booth's algorithm have (11101) & (1100). The result shall be **(812)10**

261.

A table can be logically connected to another table by defining a **COMMON ATTRIBUTE**

262.

A _____ can be viewed as a snapshot of a system's parameters at rest or at a specific point in time.

Static model

263.

PC register keeps tracks of the instructions stored in program stored in memory.

264.

Consider the following code fragment:

```
if (fork() == 0)  
{ a = a + 5; printf("%d,%d\n", a, &a); }  
else { a = a -5; printf("%d, %d\n", a, &a); }
```

Let u, v be the values printed by the parent process, and x, y be the values printed by the child process. Which one of the following is TRUE?

(c) **u + 10 = x and v = y**

265.

The logical or mathematical model of a particular organization of data is called a **DATA STRUCTURE**

266.

If the state of the database no longer reflects a real state of the world that the database is supposed to capture, then such a state is called **inconsistent state**

267.

Memory unit accessed by content is called **ASSOCIATIVE MEMORY**

268.

The _____ is used when you have one case that is similar to another use case but does a bit more specialized

EXTENDS ASSOCIATION

269.

Which of the following is the least simple data structure?

270.

The atomic fetch-and-set x, y instruction unconditionally sets the memory location x to 1 and fetches the old value of x in y without allowing any intervening access to the memory location x. consider the following implementation of P and V functions on a binary semaphore .

```
void P (binary_semaphore *s) {  
    unsigned y;  unsigned *x = &(s->value);  
    do {    fetch-and-set x, y; } while (y);}  
  
void V (binary_semaphore *s) {  
    S->value = 0;}
```

Which one of the following is true? **DOES NOT WORK IF DISABLED IN P**

271.

Superclass -subclass relationships, also known AS **INHERITANCE**

272.

'Aging registers' are **Counters which indicate how long ago their associated pages have been referenced.**

273.

Ensuring isolation property is the responsibility of the **Concurrency-control component of the DBMS**

274.

Which of the following page replacement algorithms suffers from Belady's anomaly? **FIFO**

275.

Linear arrays are also called **1D ARRAY**

276.

Which of the following gives a logical structure of the database graphically? **ER DIAGRAM**

277.

What is the swap space in the disk used for? **SAVING PROCESS DATA**

278.

Arrays are best data structures **RELATIVELY PERMANENT DATA**

279 A binary digit is called a **BIT**

280.

COUPLING denotes the measure of strength of association established by a connection from one object to another.

281.

Suppose n processes, P₁, ..., P_n share m identical resource units, which can be reserved and released one at a time. The maximum resource requirement of process P_i is S_i, where S_i > 0. Which one of the following is a sufficient condition for ensuring that deadlock does not occur?

OPTION C S<(M+N)

282.

REQUIREMENT DIAGRAM is the interaction between software components or objects.

283.

Which of the following data structures are indexed structures? **LINEAR ARRAYS**

284.

Status bit is also called **FLAG BIT**

285.

The entity relationship set is represented in E-R diagram as **DIAMOND**

286.

Consider three processes, all arriving at time zero, with total execution time of 10, 20 and 30 units, respectively. Each process spends the first 20% of execution time doing I/O, the next 70% of time doing computation, and the last 10% of time doing I/O again. The operating system uses a shortest remaining compute time first scheduling algorithm and schedules a new process either when the running process gets blocked on I/O or when the running process finishes its compute burst. Assume that all I/O operations can be overlapped as much as possible. For what percentage of time does the CPU remain idle? **10.6%**

287.

An address in main memory is called **PHYSICAL ADDRESS**

288.

DESIGN PATTERN provides a scheme for refining the subsystems or components of a software system or the relationship among them.

289.

A **LINEAR ARRAY** does not keep track of address of every element in the list.

290.

The Rectangles divided into two parts represents **ENTITY SET**

291.

Consider a directed line(→) from the relationship set advisor to both entity sets instructor and student. This indicates **one to one cardinality**

292.

Which of the following is major part of time taken when accessing data on the disk? **SEEK TIME**

293.

When does top value of the stack changes? **AFTER DELETION**

294.

If the value $V(x)$ of the target operand is contained in the address field itself, the addressing mode is **DIRECT**

295.

The concept of _____ is used to represent a system whose inside workings are not available for inspection.

BLACK BOX

296.

We indicate roles in E-R diagrams by labeling the lines that connect **DIAMOND to RECTANGLE**.

297.

can be represented in a signed magnitude format and in a 1's complement format as **LEFT BIT**

298.

Which if the following is/are the levels of implementation of data structure **ALL OF THESE**

299.

A _____ strategy can detect the serious flaws early in the implementation.

TOP DOWN STRATEGY

300.

From amongst the following given scenarios determine the right one to justify interrupt mode of data-transfer

KEYBOARD I/P

301.

An entity set that does not have sufficient attributes to form a primary key is termed a **WEAK ENTITY**.

302.

A binary search tree whose left subtree and right subtree differ in height by at most 1 unit is called **AVL TREE**

303.

WBOX is to test every statement in the objects method by executing it at least once.

304.

The instructions which copy information from one location to another either in the processor's internal register set or in the external main memory are called **DATA TRANSFER INSTRUCTIONS**

305.

Increasing the RAM of a computer typically improves performance because: **Fewer page faults occur**

Increasing main memory allows more code/pages to reside there and hence, less page faults.

306.

The performance of cache memory is frequently measured in terms of a quantity called **HIT RATIO**

307.

For a weak entity set to be meaningful, it must be associated with another entity set, called **the IDENTIFYING SET**

308.

TESTING is the process of executing a program with the intent of finding errors.

309.

A computer system supports 32-bit virtual addresses as well as 32-bit physical addresses. Since the virtual address space is of the same size as the physical address space, the operating system designers decide to get rid of the virtual memory entirely. Which one of the following is true?

Hardware support for memory management is no longer needed

310.

IMPLEMENTATION level is where the model becomes compatible executable code

311.

Three concurrent processes X, Y, and Z execute three different code segments that access and update certain shared variables. Process X executes the P operation (i.e., wait) on semaphores a, b and c; process Y executes the P operation on semaphores b, c and d; process Z executes the P operation on semaphores c, d, and a before entering the respective code segments. After completing the execution of its code segment, each process invokes the V operation (i.e., signal) on its three semaphores. All semaphores are binary semaphores initialized to one. Which one of the following represents a deadlockfree order of invoking the P operations by the processes?

X: P(b)P(a)P(c) Y: P(b)P(c)P(d) Z: P(a)P(c)P(d)

312.

STACK IS ALSO CALLED **LIFO**

313.

A **GOOD TEST CASE** is the one that has a high probability of detecting an as-yet undiscovered error

314.

Content of the program counter is added to the address part of the instruction in order to obtain the effective address is called. **RELATIVE ADDRESS**

315.

Weak entity set is represented as **DOUBLE DIAMOND**

316.

An interface that provides I/O transfer of data directly to and from the memory unit and peripheral is termed as **DMA**

317.

Which of the following is true about the characteristics of abstract data types?

A. It exports a set of operations **TRUE**

B. It exports a type. **TRUE**

Top of Form

318.

Nouns in the textual description are considered to be _____.

319.

Protocols are?

320.

If you were collecting and storing information about your music collection, an album would be considered a(n) **INSTANCE**

321.

What is the content of Stack Pointer (SP)? **ADDRESS OF THE TOP OF THE STACK**

322.

Which data communication method is used to transmit the data over a serial communication link?

FULL-DUPLEX

323.

Model Constraints and Comments Constraints are assumptions or relationships among model elements specifying conditions and propositions that must be maintained as true.

324. **NONE** is not the component of data structure.

325.

What term is used to refer to a specific record in your music database; for instance; information stored about a specific album? **INSTANCE**

326.

Which of the following is not the part of ADT description? **NONE**

327.

The memory unit that communicates directly with the CPU is called the **MAIN MEMORY**

328.

_____ usecase is not complete and has no initiation actors.

ANS:**Abstract**

329.

In communication satellite, multiple repeaters are known as? **TRANSPOUNDERS**

330. Let us consider phone_number ,which can take single or several values . Treating phone_numbers as **an ENTITY** permits instructors to have several phone numbers (including zero) associated with them.

331.

A page fault **NOT IN MEMORY**

332.

SRS describe system services or functions

333.

Error detection at the data link layer is achieved by? **CYCLIC REDUNDANCY**

334.

The total participation by entities is represented in E-R diagram as **DOUBLE LINE**

335.

Inserting an item into the stack when stack is not full is called **PUSH** Operation and deletion of item from the stack, when stack is not empty is called **POP**.operation.

336.

Given the basic ER and relational models, which of the following is INCORRECT?

OPTION C (MORE THAN ONE)

337.

QUEUE Is a pile in which items are added at one end and removed from the other.

338.

A CPU generates 32-bit virtual addresses. The page size is 4 KB. The processor has a translation look-aside buffer (TLB) which can hold a total of 128 page table entries and is 4-way set associative. The minimum size of the TLB tag is: **15 BITS**

339.

The most common addressing techniques employed by a CPU is **ALL THE ABOVE**

340.

SRS is a structured document setting out detailed descriptions of the system services

341.

Pipeline implement **ALL OF THE ABOVE**

342.

Which of the following indicates the maximum number of entities that can be involved in a relationship?

MAXIMUM CARDINALITY

343.

STACK is very useful in situation when data have to stored and then retrieved in reverse order.

344.

Prototyping is an important technique of _____

345.

Virtual memory is **SECONDARY MEMORY**

346.

What will be printed as the output of the following program?

```
public class testincr  
{  
    public static void main(String args[])  
    {  
        int i = 0;  
        i = i++ + i;  
        System.out.println("I = " +i);  
    }  
}
```

OUTPUT:1

347.

What is a relationship called when it is maintained between two entities? **BINARY**

348.

When a subroutine is called, the address of the instruction following the CALL instructions stored in/on the **STACK**

349.

Page fault occurs **when DATA NOT IN MEMORY**

350.

Requirements which change during development or when the system is in use are said to be **AMBIGUOUS**

351.

_____ don't know what they really want

352.

Consider the virtual page reference string

1, 2, 3, 2, 4, 1, 3, 2, 4, 1

On a demand paged virtual memory system running on a computer system that main memory size of 3 pages frames which are initially empty. Let LRU, FIFO and OPTIMAL denote the number of page faults under the corresponding page replacements policy. Then

(A) OPTIMAL < LRU < FIFO (B) OPTIMAL < FIFO < LRU (C) OPTIMAL = LRU

(D) OPTIMAL = FIFO

OPTION B

353.

Key to represent relationship between tables is called **PRIMARY KEY**

354.

Which data structure allows deleting data elements from and inserting at rear? **QUEUE**

355.

PC Program Counter is also called **IP INT POINTER**

356.

Thrashing occurs when **EXCESSIVE SWAPPING**

357.

Which of the following data structure can't store the non-homogeneous data elements? **ARRAY**

358.

A window into a portion of a database is **VIEW**

359.

Virtual memory is

360.

Different _____ may have conflicting requirements

ANS:**STAKEHOLDERS**

361.

_____ are responsible for producing or consuming data

362.

A primary key is combined with a foreign key creates **PARENT CHILD RELATIONSHIP**

363.

Cache memory-

364.

A **QUEUE/LINKEDLIST** is a data structure that organizes data similar to a line in the supermarket, where the first one in line is the first one out.

365.

Let the page fault service time be 10ms in a computer with average memory access time being 20ns. If one page fault is generated for every 10^6 memory accesses, what is the effective access time for the memory?

30 NS

366.

Assume that there are 3 page frames which are initially empty. If the page reference string is 1, 2, 3, 4, 2, 1, 5, 3, 2, 4, 6, the number of page faults using the **optimal replacement policy is 7**.

367.

A memory buffer used to accommodate a speed differential is called **CACHE**

368. Herder node is used as **sentinel** inbinary tree

369.

In order to maintain transactional integrity and database consistency, what technology does a DBMS deploy?
LOCK

370.

_____ are a natural way to structure requirements elicitation

371.

Why we need to have secondary storage ? **STORE LARGE MEMORY THAT EXCEEDS MAIN MEMORY**

372.

Which data structure is used in breadth first search of a graph to hold nodes? **QUEUE**

373.

A social scientist spends a considerable time observing and analysing how people actually work is said to be **ETHNOGRAPHY**

374.

Which of the following is NOT an advantage of using shared, dynamically linked libraries as opposed to using statically linked libraries ? **FASTER PROGRAM STRATEGY**

375.

A lock that allows concurrent transactions to access different rows of the same table is known as a **ROW LEVEL LOCK**

376.

Identify the data structure which allows deletions at both ends of the list but insertion at only one end. **INPUT RESTRICTED**

377.

A computer has twenty physical page frames which contain pages numbered 101 through 120. Now a program accesses the pages numbered 1, 2, ..., 100 in that order, and repeats the access sequence THREE. Which one of the following page replacement policies experiences the same number of page faults as the optimal page replacement policy for this program? **MOST RECENTLY USED**

378.

Whenever CPU detects an interrupt, what it does with current state ? **SAVE IT**

379.

Which of the following are introduced to reduce the overheads caused by the log-based recovery?

CHECK POINTS

380.

The **PROTOTYPE** may be used for user training before a final system is delivered

381.

Misunderstandings between software users and developers are exposed by **PROTOTYPE**

382.

Which of the following data structure is non linear type? **NONE OF THE ABOVE**

383.

The address mapping is done, when the program is initially loaded is called ? **STATIC RELOCATION**

384.

Which of the following protocols ensures conflict serializability and safety from deadlocks?

TIME STAMP ORDERING

385.

Consider three CPU-intensive processes, which require 10, 20 and 30 time units and arrive at times 0, 2 and 6, respectively. How many context switches are needed if the operating system implements a shortest remaining time first scheduling algorithm? Do not count the context switches at time zero and at the end. **2**

386.

Which of the following is the block that is not permitted to be written back to the disk? **PINNED**

387.

The unit which decodes and translates each instruction and generates the necessary enable signals for ALU and other units is called **CONTROL UNIT**

388.

The objective of **ANALYST** is to deliver a working system to end-users

389.

Which of the following data structure has cycles? **GRAPHS**

390.

Which of the following process scheduling algorithm may lead to starvation **SJF**

391.

In **THROW AWAY** the prototype is developed from an initial specification, delivered for experiment then discarded

392.

A microprogram is sequencer perform the operation ? **READ AND WRITE**

393.

If transaction Ti gets an explicit lock on the file Fc in exclusive mode, then it has **an IMP IN EXCLUSIVE MODE** on all the records belonging to that file.

394.

If the quantum time of round robin algorithm is very large, then it is equivalent to: **FIFO**

395.

To represent hierarchical relationship between elements, Which data structure is suitable? **TREE**

396.

An _____, start with the best understood parts

397.

The performance of the cache memory is measured in terms of ? **HIT RATIO**

398.

Which refers to a property of computer to run several operation simultaneously and possible as computers await response of each other **CONCURRENCY**

399.

FIFO form of access is used to add and remove nodes from a queue.

400.

A scheduling algorithm assigns priority proportional to the waiting time of a process. Every process starts with priority zero (the lowest priority). The scheduler re-evaluates the process priorities every T time units and decides the next process to schedule. Which one of the following is TRUE if the processes have no I/O operations and all arrive at time zero? **ROUND ROBIN**

401.

A set of physical addresses is also known as **MEMORY ADDRESS**

402.

All lock information is managed by a **LOCK MANAGER** which is responsible for assigning and policing the locks used by the transactions.

403.

Consider the following table of arrival time and burst time for three processes P0, P1 and P2.

Process	Arrival time	Burst Time
---------	--------------	------------

P0	0 ms	9 ms
P1	1 ms	4 ms
P2	2 ms	9 ms

The pre-emptive shortest job first scheduling algorithm is used. Scheduling is carried out only at arrival or completion of processes. What is the average waiting time for the three processes? **5**

404.

In a _____ start with the least well-understood parts

405.

In liked representation of stack **INFO** holds the elements of the stack.

.406 **LIFO** form of access is used to add remove nodes from a stack.

407.

Which of the following is a procedure for acquiring the necessary locks for a transaction where all necessary locks are acquired before any are released?

TWO PHASE LOCK

408.

OPTICAL DISK read the data by reflecting pulses of laser beams on the surface

409.

Requirements which specify that the delivered product must behave in a particular way is **PRODUCT REQUIREMENT**

410.

Which of the following statements are true?

- I. Shortest remaining time first scheduling may cause starvation
- II. Preemptive scheduling may cause starvation
- III. Round robin is better than FCFS in terms of response time

ALL OF THE ABOVE

411.

A system is in a **DEAD LOCK** state if there exists a set of transactions such that every transaction in the set is waiting for another transaction in the set.

412.

Group 1 contains some CPU scheduling algorithms and Group 2 contains some applications. Match entries in Group 1 to entries in Group 2.

Group I

Group II

(P) Gang Scheduling (1) Guaranteed Scheduling

(Q) Rate Monotonic Scheduling (2) Real-time Scheduling

(R) Fair Share Scheduling (3) Thread Scheduling

P-3 Q-2 R-1

413.

Constraints on the services or functions offered by the system such as timing constraints, constraints on the development process, standards, etc refers to **NON FUNCTIONAL REQUIREMENT**

414.

Which technique helps processor to run a program concurrently with input output operations ?

INTERRUPT DRIVEN I/O

415.

In the linked representation of the stack **START POINTER** behaves as the top pointer variable of stack.

416.Which interrupt establishes a priority over the various sources to determine which request should be entertained first ? **PRIORITY INTERRUPT**

417.

Reliability, Response time and Storage requirements are examples of **NON-FUNCTIONAL REQUIREMENT**

418.

Consider three processes (process id 0, 1, 2 respectively) with compute time bursts 2, 4 and 8 time units. All processes arrive at time zero. Consider the longest remaining time first (LRTF) scheduling algorithm. In LRTF ties are broken by giving priority to the process with the lowest process id. The average turn around time is:**LRTF-13 UNITS**

419. The deadlock state can be changed back to stable state by using **ROLLBACK** statement.

420. New nodes are added to the **BACK of the queue**.

421. In linked representation of stack the null pointer of the last node in the list signals **BACK OF THE STACK**

422.Mandating a particular IDE, programming language or development method are examples of **NON FUNCTIONAL**

423.Which method is used to establish priority by serially connecting all devices that request an interrupt ? **DAISY CHAINING**

424.The maximum number of processes that can be in Ready state for a computer system with n CPUs is **INDEPENDANT OF N**

425.What are the ways of dealing with deadlock ?

426. For the processes listed in the following table, which of the following scheduling schemes will give the lowest average turnaround time?

Process	Arrival Time	Processing Time
---------	--------------	-----------------

A	0	3
---	---	---

B	1	6
---	---	---

C	4	4
---	---	---

SHORTEST REMAINING TIME

427. What happens when you push a new node onto a stack? **the new node is placed at the front of the linked list.**

428. When transaction T_i requests a data item currently held by T_j , T_i is allowed to wait only if it has a timestamp smaller than that of T_j (that is, T_i is older than T_j). Otherwise, T_i is rolled back (dies). This is

WAIT DIE

429. Which is used for this and known as high speed buffer exist with almost each process ? **CACHE**

430. Requirements which are a consequence of organisational policies and procedures are termed as **POLICIES /PROCEDURE**

431. Main function of shared memory is: **INTERPROCESS**

432. Interoperability requirements, legislative requirements are examples of **EXTERNAL REQUIREMENT**

433. In stack organization the insertion operation is known as ?**PUSH**

434. A queue is a

435. When transaction T_i requests a data item currently held by T_j , T_i is allowed to wait only if it has a timestamp larger than that of T_j (that is, T_i is younger than T_j). Otherwise, T_j is rolled back (T_j is wounded by T_i). This is

WOUND WAIT

436. Loss in signal power as light travels down the fiber is called? **Attenuation**

437. **VALIDATION** is the process of checking the requirements for validity, consistency, completeness, realism and verifiability.

438. **INTERRUPT INITIATED I/O** processor has to check continuously till device becomes ready for transferring the data ?

439. The situation where the lock waits only for a specified amount of time for another lock to be released is **LOST TIMEOUT**

440. Which of the following name does not relate to stacks? **FIFO**

441.

The deadlock in a set of transaction can be determined by **READ ONLY GRAPH**

442.

The retrieval of items in a stack is **POP** operation.

443.

_____ is the process of formally documenting the user and system requirements and creating a software requirements document.

444.

The topology with highest reliability is ? **MESH**

445.

Instruction that are used for reading from memory by an IOP called? **COMMANDS**

446.

The term push and pop is related to **STACK**

447.

A deadlock exists in the system if and only if the wait-for graph contains a **CYCLE**

448.

Tools to support the early process activities of requirements and design are **UPPER CASE**

449.

Baud means? **SIGNAL CHANGE RATE**

450 For operation of multiplication hardware needs minimum ALU **of 32 bits**

451.

Tools to support later activities such as programming,debugging and testing are **LOWER CASE**

452.

In OSI model dialogue control and token management are responsibilities of ?

SESSION LAYER

453.

PARTIAL rollback requires the system to maintain additional information about the state of all the running transactions.

454.

In division, two operands (dividend and divisor) and answer (quotient) of divide are accompanied by a second answer called the **REMAINDER**

455.

The term enqueue and dequeue is related to **QUEUE**

456.

The term ParentTree and Child is related to

457.

Which of the following is not a property of transactions? **CONCURRENCY CONTROL**

458.

Multiplying (1000)10 by (1001t)en will produce product of **1001001**

459.

Under mark parity,each parity bit is? **1**

460.

Software should not make wasteful use of system resources is termed as **EFFICIENCY**

461.

Software must be usable by the users for which it was designed is termed as **USABILITY**

462.

A number in scientific notation, that has no leading 0s is called a **normalised number**

463.

Which is the pointer associated with the stack? **TOP**

464.

How long is an IPv6 address? **128 BITS**

465.

SNAPSHOT is used for (DBA) **DYNAMIC DATA REPLICATION**

466.

Isolation of the transactions is ensured by **CONCURRENCY CONTROL**

467.

The elements are removed from a stack in **REVERSE order**.

468.

Human readable base representation of numbers is **DECIMAL**

469.

Old, valuable systems must be maintained and updated are termed as **MAINTAINENCE**

470.

You have 10 users plugged into a hub running 10Mbps half-duplex. There is a server connected to the switch running 10Mbps half-duplex as well. How much bandwidth does each host have to the server? **10MBPS**

471.

Constraint checking can be disabled in existing **CHECK and FOREIGN KEY** constraints so that any data you modify or add to the table is not checked against the constraint.

472.

SOFTWARE ENGINEERING is an engineering discipline which is concerned with all aspects of software production.

473.

Converting (-2047)₁₀ into a 32-bit 2

1-10001001-111111111000000000000000

474.

How often are BPDUs sent from a layer 2 device? **2 SECS**

475.

The insertion operation in the stack is called **PUSH**

476.

Decimal value of this 32-bit two

477.

PUSH is the term used to insert an element into stack.

478

EXTREME PROGRAMMING relies on constant code improvement, user involvement in the development team and pairwise programming .

479.

Which router command allows you to view the entire contents of all access lists?**SHOW ACCESS LIST**

480.

Problems occurs if we don't implement proper locking strategy **UNREPEATABLE READ**

481.

Which of the following fixed database roles can add or remove user IDs? **DB_ACCESSADMIN**

482.

Dividing $(1,001,010)_10$ by $(1000)_10$ will produce remainder of **(10)₁₀**

483.

What protocols are used to configure trunking on a switch? **3 AND 4**

484.

Stack follows the strategy **of LIFO**.

485.

Risks are explicitly assessed and resolved throughout the process in **SPIRAL** model

486.

SYSTEM TESTING involves executing the system with test cases that are derived from the specification of the real data to be processed by the system

487.

By default sql server has **READ COMMITTED LEVEL** isolation level

488.

If a block can be placed at every location in cache, this cache is said to be **FULLY ASSOCIATION**

489.

POP is the term used to delete an element from the stack.

490.

How many collision domains are created when you segment a network with a 12-port switch? **12**

491.

Individual components are tested is termed as **UNIT TESTING**

492.

Which protocol does Ping use? **ICMP**

493.Which of the following statements is/are not true for SQL profiler?

CHECK P OF STORED PROCEDURE

494.

Deletion operation is done using **FRONT** in a queue.

495.

Information when is written in cache, both to block in cache and block present in lower-level memory, refers to **WRITE THROUGH**

496.

What PPP protocol provides dynamic addressing, authentication, and multilink?

LCP

497.

Which of the following is the original purpose of SQL? **ALL OF THESE**

498.

Testing with customer data to check that it is acceptable is termed as **UAT testing**

499.

A pointer variable which contains the location at the top element of the stack is called **TOP**

500. The load instruction is mostly used to designate a transfer from memory to a processor register known as **ACCUMULATOR**

501.

_____ **genetic modification** _____ is concerned with modifying the system after it is in use

502.

What is a stub network?

A stub network, or pocket network, is a somewhat casual term describing a computer network, or part of an internetwork,

with no knowledge of other networks, that will typically send much or all of its non-local traffic out via a single path, with

the network aware only of a default route to non-local destinations.

503.

A group of bits that tell the computer to perform a specific operation is known as **_instruction code__**.

504.

Which of the following is an application of stack?

ans:applications of stack are:

1.Expression evaluation

2.Backtracking (game playing, finding paths, exhaustive searching)

3.Memory management, run-time environment for nested language features.

505.

SQL can be used to:

ans:communicate with a database

506.

The assignment operator is denoted by

ans:(=).

507.

The time interval between adjacent bits is called the_____.

ans: bit-time

508.

The operation of processing each element in the list is known as

ans: traversal

509.

Which of the following services use TCP?

[A] DHCP

[B] SMTP

[C] FTP

[D] TFTP

[E] HTTP

Answer: **B**

510.

_____ **milestones** _____ are the end-point of a process activity

511.

Consider money is transferred from (1) account-A to account-B and (2) account-B to account-A. Which of the following form a

transaction ?

ans: both 1 & 2.

512.

_mcq____ are project results delivered to customers

513.

Other name for directed graph is**digraph**.....

514.

Which of the following is private IP address?

A. 12.0.0.1

B. 168.172.19.39

C. 172.15.14.36

D. 192.168.24.43

Answer: Option D

515.

A k-bit field can specify any one of_____.

A. 3k registers

B. **2k registers**

C. K2 registers

D. K3 registers

Ans: B

516.

_____ show task dependencies and the critical path

517.

A transaction may not always complete its execution successfully. Such a transaction is termed

a) Aborted

- b) Terminated
- c) Closed
- d) All of the mentioned

ans: a

518.

MIMD stands for _____.

ans: **multiple instruction, multiple data.**

519.

Which class of IP address provides a maximum of only 254 host addresses per network ID?

- A. Class A
- B. Class B
- C. Class C**
- D. Class D

Answer: Option C

520.

Binary trees with threads are called as

ans: threaded binary tree.

521.

In dial up remote access a client uses the ---- to create a physical connection to a part on a remote access server of the private network.

1)Private network

2)Public telephone network

3) Bank's branch network

4) Public local network

Ans:(2)

522.

The average time required to reach a storage location in memory and obtain its contents is called_____.

- A. Latency time.
- B. **Access time.**
- C. Turnaround time.
- D. Response time.

Ans: B

523.

If an transaction is performed in a database and committed, the changes are taken to the previous state of transaction by

- a) Flashback
- b) Rollback
- c) Both a and b
- d) Cannot be done**

Ans:d

524.

____ mcq _____ show schedule against calendar time

525.

Graph G is if for any pair u, v of nodes in G there is a path from u to v or path from v to u.

- A. Leterally connected
- B. Widely Connected
- C. Unliterally connected**
- D. Literally connected

Ans:C

526.

In Binary trees nodes with no successor are called

a.end nodes

b.final nodes

c.last nodes

d.terminal nodes

ans:d

527.

Which of the following devices is a PC component that connects the computer to the network?

528.

A **risk** is a probability that some adverse circumstance will occur.

529.

'Aging registers' are _____.

(A) **Counters which indicate how long ago their associated pages have been referenced.**

(B) Registers which keep track of when the program was last accessed.

(C) Counters to keep track of last accessed instruction.

(D) Counters to keep track of the latest data structures referred.

Ans: A

530.

Each modification done in database transaction are first recorded into the

a) Harddrive

b) Log

c) Disk

d) Datamart

Ans:b

531.

A connected graph T without any cycles is called

A. A tree graph

B. Free tree

C. A tree d

D. All of the above

Ans:D

532.

Which of the following devices modulates digital signals into analog signals that can be sent over traditional telephone

lines?

(1) Router

(2) Gateway

(3) Switch

(4) Modem

(5) NIC

Ans:4

533.

Project Risks affect schedule or resources

534.

When the transaction finishes the final statement the transaction enters into

a) Active state

b) Committed state

c) Partially committed state

d) Abort state

Ans:c

535.

Memory unit accessed by content is called_____.

A. Read only memory

B. Programmable Memory

C. Virtual Memory

D. **Associative Memory**

Ans: D

536.

The name of the transaction file shall be provided by the operator and the file that contains the edited transactions ready

for execution shall be called

a) Batch. Exe

b) Trans. Exe

c) Opt. Exe

d) Edit.Exe

Ans:c

537.

n bits in operation code imply that there are _____ possible distinct

A. $2n$

B. **2^n**

C. $n/2$

D. n^2

Ans: B

538.

Which of the following devices takes data sent from one network device and forwards it to all devices on the network

regardless of the intended recipient?

(1) DNS Server

(2) Switch

(3) Hub

(4) Gateway

(5) All

Ans. (3)

539.

Trees are said if they are similar and have same contents at corresponding nodes.

- A. Duplicate
- B. Carbon copy
- C. Replica

D. Copies

Ans:D

540.

___mcq___ affect the organisation developing or procuring the software

541.

Which of the following is an atomic sequence of database actions?

- a) Transaction**
- b) Concurrency
- c) Relations
- d) All of the mentioned

Ans:a

542.

Which of the following devices takes data sent from one network device and forwards it to the destination node based on MAC

address?

- (1) Hub
- (2) Switch**
- (3) Gateway
- (4) Modem
- (5) All

Ans. (2)

543.

Late delivery of hardware or support software is an example for ___mcq___

544.

A three input NOR gate gives logic high output only when_____.

- A. one input is high
- B. one input is low
- C. two input are low
- D. **all input are high**

Ans: D

545.

Every node N in a binary tree T except the root has a unique parent called the of N.

- A. Antecedents
- B. Predecessor**
- C. Forerunner
- D. Precursor

Ans:B

546.

The circuit converting binary data in to decimal is_____.

- A. Encoder
- B. Multiplexer
- C. Decoder
- D.Code converter**

Ans: D

547.

In a tree, between any two nodes, there is **_edge or path_____**.

548.

poor relationships amongst team member is _____risk

Ans:negative conflict

549.

If the state of the database no longer reflects a real state of the world that the database is supposed to capture, then

such a state is called

- a) Consistent state
- b) Parallel state

c) Atomic state

d) Inconsistent state

Ans:d

550.

Which of the following devices assigns IP address to devices connected to a network that uses TCP/IP?

[A] DHCP Server

[B] NIC

[C] Gateway

[D] Hub

Answer: A

551.

_____ means that data used during the execution of a transaction cannot be used by a second transaction until the first

one is completed.

(a) Serializability

(b) Atomicity

(c) Isolation

(d) Time stamping

(e) Durability.

Ans:c

552.

A _____ **feasibility study** _____ decides whether or not the proposed system is worthwhile

553.

Although they've fallen out of favor, which of the following devices is used to connect different network segments and manage the traffic between them?

[A] Bridge

[B] Hub

[C] Gateway

[D] Repeater

Answer: A

554.

PSW is saved in stack when there is a _____.

- A. **interrupt recognized**
- B. execution of RST instruction
- C. Execution of CALL instruction
- D. All of these

Ans: A

555.

In a graph if $E=(u,v)$ means

- A. u is adjacent to v but v is not adjacent to u
- B. e begins at u and ends at v
- C. u is processor and v is successor

D. both b and c

Ans:D

556.

DBMS periodically suspends all processing and synchronizes its files and journals through the use of

- (a) **Checkpoint facility**
- (b) Backup facility (c) Recovery manager
- (d) Database change log
- (e) Shadow Paging.

Ans:a

557.

Sequential representation of binary tree uses

- A. Array with pointers**
- B. Single linear array
- C. Two dimentional arrays
- D. Three dimentional arrays

Ans:A

558.

The multiplicand register & multiplier register of a hardware circuit implementing booth's algorithm have (11101) & (1100).

The result shall be _____.

- A. (812)10 B. (-12)10
C. (12)10 D. (-812)10

Ans: A

559.

Which of the following devices direct network traffic based not by MAC addresses but by software-configured network addresses?

[A] Router

- [B] Hub
[C] Bridge
[D] NIC

Answer: A

560.

mcq_association identifies the structural (part-of) relationships between entities

561.

A transaction is delimited by statements (or function calls) of the form _____.

- a) **Begin transaction and end transaction**
b) Start transaction and stop transaction
c) Get transaction and post transaction
d) Read transaction and write transaction

Ans:a

562.

_mcq____ identifies generalities among entities

Abstraction.

563.

1. Simplified form of the boolean expression $(X + Y + XY)(X + Z)$ is
- A. $X + Y + Z$
B. $XY + YZ$
C. X + YZ

D. XZ + Y

E. None of the above

Ans:C

564.

Which of the following network devices/systems translates data from one format to another?

A. Hub

B. DHCP Server

C. Gateway

D. NIC

Ans:C

565.

In a graph if $e=[u,v]$, Then u and v are called

A. End points of e

B. Adjacent nodes

C. Neighbours

D. All of the above

Ans:D

566.

Which of the following is not a state in transaction ?

a) Active

b) Terminated

c) Aborted

d) Partially committed

Ans:b

567.

_____ **System Requirements** _____ are a natural way to structure requirements elicitation

568.Which of the following terms is used to describe a hardware- or software-based device that protects networks from outside

threats?

Ans: **Firewall**

569. TREE[1]=NULL indicates tree is

A. Overflow

B. Underflow

C. Empty

D. Full

Ans:C

570.

1. Which of the following boolean expressions is not logically equivalent to all of the rest ?

a. $wxy' + wz' + wxyz + wy'z$

b. $w(x + y' + z')$

c. $w + x + y' + z'$

d. $wx + wy' + wz'$

Ans:c

571.

1. Which of the following statements is true ?

572.

Identify the characteristics of transactions

Ans: **Rapid Response, Reliability**

573.

Which of the following devices translates hostnames into IP addresses?

[A] DNS Server

[B] Hub

[C] DHCP Server

[D] Firewall

Answer: A

574.

Systematic manual analysis of the requirements are termed as __mcq__

575.

A binary tree whose every node has either zero or two children is called

A. complete binary tree

B. binary search tree

C. extended binary tree

D. data structure

Ans:C

576.

Using an executable model of the system to check requirements is termed as __mcq__.

577.

Which of the following has “all-or-none” property ?

a) Atomicity

b) Durability

c) Isolation

d) All of the mentioned

Ans:a

578.

Switch is a Device of _____ Layer of OSI Model.

a.network

b.data link later

c.application layer

d.session layer

ans:b

579.

Linked representation of binary tree needs parallel arrays.

A. 4

B. 2

C. 3

D. 5

Ans:C

580.

A graphical display of the fundamental products in a truth-table is known as

A.Mapping

B.Graphing

C.T-map

D.karnaugh-map

Ans:D

581.

The minimum number of NAND gates required to implement the Boolean function. $A + AB' + AB'C$ is equal to

a.0

b.1

c.4

d.7

Ans:a

582.

The database system must take special actions to ensure that transactions operate properly without interference from

concurrently executing database statements. This property is referred to as

a) Atomicity

b) Durability

c) Isolation

d) All of the mentioned

Ans:c

583.

HUB is a _____ Device and Switch is a _____ Device.

a.Unicast, Multicast

b.Malтиcast, Unicast

c.Broadcast, Unicast

d.None of Above

Ans:c

584.

In a 2-tree, nodes with 0 children are called

A. Exterior node

B. Outside node

C. Outer node

D. External node

Ans:D

585.

"Is the origin of the requirement clearly stated?" relates to __**traceability**_____

586.

Star Topology is Based On a Central Device that can be _____ ?

(1) HUB

(2) Switch

(3) Router

(4) Both 1 and 2

(5) Gateway

Ans. (4)

587.

Which of the following logic expression is incorrect?

- a. $1 \text{ XOR } 0 = 1$
- b. $1 \text{ XOR } 1 \text{ XOR } 1 = 1$
- c. $1 \text{ XOR } 1 \text{ XOR } 0 = 1$**
- d. $1 \text{ XOR } 1 = 0$

Ans:c

588.

In a extended-binary tree nodes with 2 children are called

- A. Interior node
- B. Domestic node
- C. Internal node**
- D. Inner node

Ans:C

589.

The property of transaction that persists all the crashes is_____

- a) Atomicity
- b) Durability**
- c) Isolation
- d) All of the mentioned

Ans:b

590.

" Is the requirement properly understood? ", relates to _____

591.

_____ states that only valid data will be written to the database.

- a) Consistency**
- b) Atomicity
- c) Durability
- d) Isolation

Ans:a

592.

Stable condition in transition table is given by expression

mcq

593.

A terminal node in a binary tree is called

A. Root

B. Leaf

C. Child

D. Branch

Ans:B

594.

The data on a DVD is held in the form of on the disc.

[A] small pits and bumps

[B] small bits

[C] small bytes

[D] None of These

Ans:A

595.

"Can the requirement be changed without a large impact on other requirements?", is related to ___ mcq ___

596.

SR latch consists of

a.1 input

b.2 inputs

c.3 inputs

d.4 inputs

Ans:b

597.

Requirements that change due to the system's environment is said to be _mcq_____

598.

How many digits of the DNIC (Data Network Identification Code) identify the country?

[A].**first three**

[B].first four

[C].first five

[D].first six

[E].None of the above

Ans:A

599.

_naive and parametric end user users work on canned transactions

600.

Which of the following ways is a pre-order traversal?

A. Left sub-tree, Right sub-tree and root

B. Right sub-tree, Left sub-tree and root

C. Root, Left sub-tree, Right sub-tree

D. Right sub-tree, root, Left sub-tree

Ans:C

Which of the following ways is a pre-order traversal?

601.

Requirements that emerge as understanding of the system develops is termed as _____

602.

The set of all attributes of a relation is called default _____.

603.

1. **Which of the following ways is a in-order traversal?**

604.

A station in a network forwards incoming packets by placing them on its shortest output queue. What routing algorithm is being used?

Answe:Hot potato routing

605.

Making of transition table consists of

Answe:6steps

606.

Links between dependent requirements refers to _____

607.

Transaction processing is associated with everything below except

Answe: Conforming a action or triggering a response

608.

1. Which of the following ways is a post-order traversal?

609.

Outputs of SR latch are **Q and Q'**

610.

The probability that a single bit will be in error on a typical public telephone line using 4800 bps modem is 10 to the power -3. If no error detection mechanism is used, the residual error rate for a communication line using 9-bit frames is approximately equal to

Answe: 0.009

611.

In asynchronous circuits changes occur with change

Answe:input

612.

The Oracle RDBMS uses the _____ statement to declare a new transaction start and its properties.

Answe: SET TRANSACTION

613.

Frames from one LAN can be transmitted to another LAN via the device

Answe:bridge

614.

An empty list is one which has no

- a. nodes
- b. data
- c. both a and b

d. address

Ans: C

615.

Links from the requirements to the design refers to _____ traceability

Ans: Requirements traceability

616.

Which of the following condition is used to transmit two packets over a medium at the same time?

Ans: Collision

617.

_____ means that the data used during the execution of a transaction cannot be used by a second transaction until the first one is completed.

Ans: Isolation

618.

On which principle does queue work?

Ans: FIFO(First in first out)

619.

_____ helps the analyst to understand the functionality of the system and models are used to communicate with customers

Ans: System models

620.

Present states of asynchronous circuits are also called

Ans: Secondary variables

621.

Items in a priority queue are entered in a _____ order

Ans: random

622.

You have a class A network address 10.0.0.0 with 40 subnets, but are required to add 60 new subnets very soon. You would like to still allow for the largest possible number of host IDs per subnet. Which subnet mask should you assign?

Ans: 255.254.0.0

623.

R has n tuples and S has m tuples, then the Cartesian product of R and S will produce _____ tuples.

Answe: $nR * nS$

624.

_____ shows the system's context or environment

USECASE

625.

Race in which stable state depends on order is called

Answe: **Critical Race**

626.

Wire introduces delay of

627.

_____ is the description of the database

Answe: **Relational database**

628.

1. A _____ tree is a tree where for each parent node, there is only one associated child node

Answe: **degenerate tree**

629.

What are the most commonly used transmission speeds in BPS used in data communication?

Answe: **9600**

630.

_____ perspective shows the system or data architecture

Answe: **Structural perspective**

631.

Instability condition can be determined from

632.

In _____ tree, the heights of the two child subtrees of any node differ by at most one

Answe: **AVL TREE**

633.

_____ model shows how entities are composed of other entities

ANsw: **Entity relation ship**

634.

The advantage of DBMS over file systems is

Answe: Data redundancy and inconsistency

Data sharing

Data concurrency

Data searching

Data integrity

Indexing

Transaction

ACID

635.

What is the default subnet mask for a class C network?

Answe: 255.255.255.0

636.

_____ shows how entities have common characteristics

Answe: Generalization

637.

_____ is the first schema to be designed when you are developing a DBMS

Answe: conceptual schema

638.

Which of the following is used for modulation and demodulation?

Answe: modem

639.

Transition table that terminates in total stable state gives

640.

Which of the following linked list below have only last node of the list pointing to the first node?

Answe: circular singly linked list

641.

Which of the following is not a disadvantage of wireless LAN?

- A. Slower data transmission
- B. higher error rate
- C. interference of transmissions from different computers
- D. All of the above**

Answer:d

642.

_____ shows the system's reaction to events

643.

DBMS cannot be classified on

Database management systems can be classified based on several criteria, such as the **data model, user numbers and database distribution, all described below.(select from options)**

644.

The time required in best case for search operation in binary tree is

Answ: O(1)

645.

Time delay device is memory element of

Answ: asynchronous circuits

646.

Which of this is not a implementation data model

Answ: Conceptual Data Model

647.

Each logic gate gives delay of

Answ:5(d = gh + p formula)

648.

_____ are used to illustrate the boundaries of a system

ANsw: Context models

649.

1. Which of the following statements hold true for binary trees?

650.

The Internet Control Message Protocol (ICMP)

Answe: to provide an error control

651.

_____ show the a system and its relationship with other systems

652.

Key value pair is usually seen in

Answe: Hash Tables

653.

Minimal super key of a relation is called _____.

Answe: candidate key

654.

Your company has a LAN in its downtown office and has now set up a LAN in the manufacturing plant in the suburbs. To enable everyone to share data and resources between the two LANs, what type of device(s) are needed to connect them? Choose the most correct answer.

ANsw: Router

655.

NAND latch works when both inputs are

Answe:1

656.

Breadth First search is used in

Answe:traversing or searching tree or graph data structures

657.

The term 'duplex' refers to the ability of the data receiving stations to echo back a confirming message to the sender. In full duplex data transmission, both the sender and the receiver

Answe: can receive and send data simultaneously

658.

_____ may be used to show the processes and the flow of information from one process to another

659.

Effect of change of input to more than one state is called

660.

In SQL, which command is used to issue multiple CREATE TABLE, CREATE VIEW and GRANT statements in a single transaction?

- a) CREATE PACKAGE
- b) CREATE SCHEMA**
- c) CREATE CLUSTER
- d) All of the mentioned

661.

How many hosts are attached to each of the local area networks at your site?

Answe: 254

662.

_____models that show the systems response to events

Answe: Behavioural

663.

Change is state occurs during

Answe:Evaporation, or vaporization, is the conversion of a substance from a liquid to a gas.

664.

The combination of selection and Cartesian product operators is _____ operator

Answe:JOIN

665.

What is the peculiarity of red black trees?

Options

- In red-black trees, the root do not contain data.
- In red-black trees, the leaf nodes are not relevant and do not contain data.**
- In red-black trees, the leaf nodes are relevant but do not contain data.
- Both a and c above

666.

Naming states is done in

Answe:

667.

_____ are used to describe the logical structure of data processed by the system

Answe:Semantic data models

668.

Which of the following technique is used for fragment?

- A. a technique used in best-effort delivery systems to avoid endlessly looping packets
- B. a technique used by protocols in which a lower level protocol accepts a message from a higher level protocol and places it in the data portion of the low level frame
- C. one of the pieces that results when an IP gateway divides an IP datagram into smaller pieces for transmission across a network that cannot handle the original datagram size**
- D. All of the above
- E. None of the above

669.

The attributes in foreign key and primary key have the same _____

Ans:unique combinations of attributes

670.

Which of the following data structures can't store non-homogeneous data-elements:

Ans:Arrays

671. _____ are lists of all of the names used in the system models.

Ans: data dictionaries

672. Which of the following statements is false: question not available in vtop

673.In SQL, the CREATE TABLESPACE is used

Ans: allocate space in the Oracle database where schema objects are stored.

674. Contention is

Ans: competition for resources

675.Delay elements provide

Ans: well-defined delays across both temperature and VCC ranges.

676.avalanche photodiode receivers can detect hits of transmitted data by receiving

A. 100 photons

B. 200 photons

C. 300 photons

D. 400 photons

E. None of the above

Answer: Option B

677._____ are rectangles with the name at the top, attributes in the middle section and operations in the bottom section

Ans: class diagram

678. _____ join requires that the two join attributes have the same name in both relations.

Ans: natural join

679. Which of the following is a two-way list:

- a. grounded header list
- b. circular header list
- c. linked list with header and trailer nodes
- d. none of above**

ans: d (List traversed in two directions)

680. Race condition is

Ans: A race condition is an undesirable situation that occurs when a device or system attempts to perform two or more operations at the same time

681. _____ is referred to as generalisation and is shown ‘upwards’ rather than ‘downwards’ in a hierarchy

Ans: Inheritance

682. There are two functional dependencies with the same set of attributes on the left side of the arrow:

A->BC

A->B

This can be combined as

- a) A->BC**
- b) A->B
- c) B->C
- d) None of the mentioned

Answer:a

683. Satellite-Switched Time-Division Multiple Access (SS/TDMA) is

A. the method of determining which device has access to the transmission medium at any time.

B. a medium access control technique for multiple access transmission media

C. a form of TDMA in which circuit switching is used to dynamically change the channel assignments

D. All of the above

E. None of the above

Answer: Option C

684. Asynchronous sequential logic circuits are used when primary need is

- 1. time
- 2. pressure
- 3. speed**
- 4. accuracy

ans: speed

685. The terms Tail and Head are related to

Ans: linked list

686. In _____ Schedule only one transaction at a time is active.

Ans: **serial schedules**

687.A system which supports _____ allows object classes to inherit from several super-classes

Ans: **multiple inheritance**

688.Internal state and input values altogether are called

1. full state
- 2. total state**
3. initial state
4. output state

ans: total state

689.When you ping the loopback address, a packet is sent where?

- A. On the network
- B. Down through the layers of the IP architecture and then up the layers again**
- C. Across the wire
- D. through the loopback dongle
- E. None of the above

Ans: b

690.The depth of a complete binary tree is given by:

- a. $D_n = n \log_2 n$
- b. $D_n = n \log_2 n + 1$
- c. $D_n = \log_2 n$
- d. $D_n = \log_2 n + 1$**

ans: d

691.Which of the following TCP/IP protocol is used for transferring electronic mail messages from one machine to another?

- A. FTP
- B. SNMP
- C. SMTP**
- D. RPC
- E. None of the above

Ans: c

692.The _____ identifies the language tokens in the text of the query.

Ans: **localized tokenization rules**

693.When representing any algebraic expression E which uses only binary operations in a 2-tree:

- a. **the variable in E will appear as external nodes and operations in internal nodes**
- b. the operations in E will appear as external nodes and variables in internal nodes
- c. the variables and operations in E will appear only in internal nodes
- d. the variables and operations in E will appear only in external nodes

ans: a

694. _____ in the UML are used to model interaction between objects

Ans: **sequential (Behavioural)**

695. change in state from 00 to 11 will cause change in

696. An algorithm that calls itself directly or indirectly is known as:

- a. Sub algorithm
- b. **Recursion**
- c. Polish notation
- d. Traversal algorithm

ans: b

697. Third step of making transition table is

1. determining feedback loop
2. designating output of loops
- 3. deriving functions of Y**
4. plotting Y

Ans: 3

698. Which of the following device is used to connect two systems, especially if the systems use different protocols?

- A. hub
- B. bridge
- C. gateway**
- D. repeater

Ans: c

699. _____ is an inherent part of most prototype development systems

Ans: visual programming

700. The _____ checks the query syntax to determine whether it is formulated according to the syntax rules of the query language.

Ans: **parser**

701. Code conversion circuits mostly uses

- 1. AND-OR gates**
2. AND gates
3. OR gates
4. XOR gates

Ans: 1

702. _____ is the deadlock free lock

703. The synchronous modems are more costly than the asynchronous modems because

- A. they produce large volume of data
- B. they contain clock recovery circuits**

C. they transmit the data with stop and start bits.

D. they operate with a larger bandwidth

Ans: b

704. The inorder traversal of tree will yield a sorted listing of elements of tree:

- A. Binary trees
- B. Binary search trees**
- C. Merging
- D. AVL Trees

Ans: b

705. _____ can be created quickly from a set of reusable components plus some mechanism to ‘glue’ these component together

Ans: **prototypes**

706. In **Serializable** Schedule transactions are executing with interleaved process.

707. Value of first linked list index is:

- A) One
- B) Zero**
- C) -1
- D) None of the above

Ans: b

708. bits full adder contains

Ans: **Full adder contains 3bits**

709. _____ may be used to ‘draw’ the interface and simulate its functionality with components associated with interface entities

ans: **interface generators**

710. A distributed network configuration in which all data/information pass through a central computer is

- A. bus network
- B. star network**
- C. ring network
- D. Point-to-point network
- E. None of the above

Answer: Option B

711. A _____ is a data-structure that organizes data similar to a line in the super-market, where the first one in the line is the first to be out:

- A)queue linked list**
- B) stacks linked list
- C) both of them
- D) neither of them

ans: a

712. Which of the following TCP/IP protocol allows an application program on one machine to send a datagram to an application program on another machine?

- A. UDP
- B. VMTCP
- C. X.25
- D. SMTP
- E. None of the above

Answer: Option A

713. The participation constraints and cardinality ratio together called as _____ constraints.

- 1. intensive constraints
- 2. recursive constraints
- 3. composite constraints
- 4. structural constraints**

ans:4

714. Nor function is dual of **nand gate**

715. _____ techniques include the use of very high-level languages, database programming and prototype construction from reusable components

Ans: **prototyping**

716. _____ are expressed in a mathematical notation with precisely defined vocabulary, syntax and semantics.

Ans: **formal specifications**

717. During _____ state, transaction issues read and write operations.

Ans: **active**

718. Which of the following statements are true? Question not there in vtop

719. Simplified expression of half adder carry is

720. Which of the following abstract data types is not used by integer abstract data type group?

- A) Short
- B) Int
- C) float**
- D) long

Ans:c

721. A thread is usually defined as a 'light weight process' because an operating system (OS) maintains smaller data structures for a thread than for a process. In relation to this, which of the followings is TRUE?

- (A) On per-thread basis, the OS maintains only CPU register state
- (B) The OS does not maintain a separate stack for each thread
- (C) On per-thread basis, the OS does not maintain virtual memory state**
- (D) On per thread basis, the OS maintains only scheduling and accounting information.

Answer (C)

722. Subtraction of two binary numbers is done by taking complementing

Ans: **1's complement of the subtrahend.**

723. Which character function can be used to return a specified portion of a character string?

- a) INSTR
- b) SUBSTRING
- c) SUBSTR**

- d) POS
View Answer

Answer: c

724.The ___ notation is a mature technique for model-based specification.

Ans: **z- notation**

725.In a MAX heap tree

Ans: **Max Heap is a binary tree in which every parent node has greater value than its child nodes...**

726.The variables which can be accessed by all modules in a program, are known as:

Ans: **global variables**

727.The design process for identifying the subsystems making up a system and the framework for sub-system control and communication is _____

Ans: **architectural design**

728.Which of the following is TRUE for the System Variable \$date\$?

- a) Can be assigned to a global variable.
- b) Can be assigned to any field only during design time.**
- c) Can be assigned to any variable or field during run time.
- d) Can be assigned to a local variable.

View Answer

Answer: b

729.Where can the Belady's anomaly occur?

- a. LRU Page Replacement Policy
- b. MRU Page Replacement Policy
- c. Optimal Page Replacement Policy
- d. FIFO Page Replacement Policy**

ans: d

730. Circuits that employs memory elements in addition to gates is called

1. combinational circuit
- 2. sequential circuit**
3. combinational sequence
4. series

ans: 2

731. What are the different events in Triggers?

Ans: **insert, update and delete**

732. The post order traversal of a binary tree is :DEBFCA, find out the preorder traversal:

Ans: **abdecf**

733. When both inputs are 1 output of xor is

Ans: **output 0**

734.Which of the following is the creation of a virtual rather than actual version of an operating system?

Ans: virtualisation

735.Which one of the following models is not suitable for accommodating any change?

- a) Build & Fix Model
- b) Prototyping Model
- c) RAD Model
- d) Waterfall Model**

[View Answer](#)

Answer: d

736.Which is not one of the types of prototype of Prototyping Model?

- a) Horizontal Prototype
- b) Vertical Prototype
- c) Diagonal Prototype**
- d) Domain Prototype

[View Answer](#)

Answer: c

737.Which is a protocol that one program can use to request a service from a program of another computer on a network?

Ans: remote procedure calls

738. Which is the subset of SQL commands used to manipulate Oracle Database Structures, including tables?

- a) Data Definition Language(DDL)
- b) Data Manipulation Language(DML)**
- c) DML and DDL
- d) None of the Mentioned

[View Answer](#)

Answer: a

739.The post order traversal of a binary tree is :DEBFCA, find out the preorder traversal:

Ans:abdecf

740.Simplified expression of full adder carry is

- A. $c=xy+xz+yz$
- B. $c=xy+xz$
- C. $c=xy+yz$
- D. $c=x+y+z$

741..... is mainly responsible for allocating the resources as per process requirement?

- (A) RAM
- (B) Compiler
- (C) Operating Systems**
- (D) Software

742.Half Subtractor also have output to check if 1 has been

- A. complemented
- B. borrowed**
- C. carried
- D. primed

743.One of the applications of a linked list:

- a: **Polynomial evaluation**
- b: Postfix expression evaluation
- c: determining the distance traveled
- d: none of these

744.The SQL statement SELECT SUBSTR('123456789', INSTR('abcabcabc','b'), 4) FROM EMP; prints

- A. 6789
- B. 2345**
- C. 1234
- D. 456789

745.Two bit subtraction is done by

- A. Demultiplexer
- B. Multiplexer
- C. full subtract or
- D. half subtract or**

746.Which of the following SQL command can be used to modify existing data in a database table?

DML STATEMENTS

747.A tree having any number of nodes:

- a: binary tree
- b: general tree**
- c: B-tree
- d: AVL tree

748.What is the major drawback of using RAD Model?

- a) Highly specialized & skilled developers/designers are required.
- b) Increases re-usability of components.
- c) Encourages customer/client feedback.
- d) Both a & c.**

749..... is mainly responsible for allocating the resources as per process requirement?

- (A) RAM
- (B) Compiler
- (C) Operating Systems**
- (D) Software.

750.When SQL statements are embedded inside 3GL, we call such a program as

- a) Nested query
- b) Nested programming
- c) Distinct query
- d) Embedded SQL**

751.The work associated with software engineering can be categorized into three generic phases, regardless of application area, project size, or complexity namely the_____ phase which focuses on what, the_____ phase which focuses on how and the_____ phase which focuses on change

1. Support, 2. Development, 3. Definition

- a) 1, 2, 3
- b) 2, 1, 3
- c) 3, 2, 1**
- d) 3, 1, 2

752.A set of several trees that are not linked to each other in any way

- | | |
|------------------|------------------|
| a: Forest | b: Graphs |
| c: B-trees | d: none of these |

753.Besides nand gate universal gate is

NOR

754.Which of the following plays an important role in modern Operating Systems(OS)?

- (A) Kernel**
- (B) Shell
- (C) Fork
- (D) None

755._____ provides option for entering SQL queries as execution time, rather than at the development stage

- A) PL/SQL
- B) SQL*Plus
- C) SQL
- D) Dynamic SQL**

756.Connection from output to one of input gate is

- A. undefined
- B. shifted
- C. feedback**
- D. wire

757.FAT stands for

- a. File Accommodation Table
- b. File Access Tape
- c. File Allocation Table**
- d. File Activity Table

758.All the non-leaf nodes except the root node in a multi-way search tree of order, n have atleast children

a: n-1 children

b: n children

c: **n/2 children**

d: n*2 children

759.Which two models doesn't allow defining requirements early in the cycle?

a) Waterfall & RAD

b) Prototyping & Spiral

c) Prototyping & RAD

d) Waterfall & Spiral

760. BAT refers to...

A. Compressed Archiv A. Compressed Archive file

B. System file

C. Audio file

D. Backup file

D. Backup file

761.Heaps are of two types:

a: high and low

b: **max and min**

c: B and B+

d: none of the above

762._____ is a procedural extension of Oracle – SQL that offers language constructs similar to those in imperative programming languages.

a) SQL

b) PL/SQL

c) Advanced SQL

d) PQL

763.Which of the following life cycle model can be chosen if the development team has less experience on similar projects?

a) Spiral

b) Waterfall

c) RAD

d) Iterative Enhancement Model

764.Most significant bit of arithmetic addition is called

A. overflow

B. carry

C. output

D. zero bit

765._____ combines the data manipulating power of SQL with the data processing power of Procedural languages.

a) PL/SQL

b) SQL

- c) Advanced SQL
- d) PQL

766.Incase of min-heap, the value present in any node is:

- a: greater than all its children
- b: **smaller than all its children**
- c: equal to all its children
- d: greater than values in left subtree
and smaller than values in right
subtree

767..... occur commonly in multitasking when two or more threads waiting for each other.

- (A) Kernel
- (B) Shell
- (C) Fork
- (D) Deadlock**

768.Two bit addition is done by

- A. ripple carry adder
- B. carry sum adder
- C. full adder
- D. half adder**

769.A company is developing an advance version of their current software available in the market, what model approach would they prefer?

- a) RAD
- b) Iterative Enhancement
- c) Both a & b**
- d) Spiral

770.AND gates are converted to NAND gates using

- A. invert OR
- B. AND invert**
- C. NAND invert
- D. both a and b

771. _____ has made PL/SQL code run faster without requiring any additional work on the part of the programmer.

- A) SQL Server
- B) My SQL
- C) Oracle**
- D) SQL Lite

772.A min-heap is also known as:

- a: decreasing heap
- b: descending heap

c: low heap

d: **none of these**

773.Identify the disadvantage of Spiral Model.

- a) **Doesn't work well for smaller projects**
- b) High amount of risk analysis
- c) Strong approval and documentation control
- d) Additional Functionality can be added at a later date

774.Round Robin(RR) scheduling algorithm is suitable for.....

- (A) Real Time Operating Systems
- (B) Embedded Operating Systems
- (C) Distributed Operating Systems
- (D) **Time Sharing Operating Systems**

775..... is a special system software that is used to handle process scheduling in different ways.

- (A) Fork
- (B) **Scheduler**
- (C) Spawn
- (D) None of the above

776.A max-heap is also known as:

- a: increasing heap
- b: **ascending heap**
- c: high heap
- d: none of these

777.Not operation is obtained by using one input

778.If you were to create client/server applications, which model would you go for?

- a) WINWIN Spiral Model
- b) Spiral Model
- c) **Concurrent Model**
- d) Incremental Model

779.A line of PL/SQL text contains groups of characters known as

- a) **Lexical Units**
- b) Literals
- c) Textual Units
- d) Identifiers

780.Borrow in two bit (x,y) subtraction is 0, as long as

781.Purpose of process is to deliver software

Purpose of process is to deliver software in a timely manner and with sufficient quality to satisfy those who have sponsored its creation and those who will use it

782.Which one of the following scheduler controls the degree of multiprogramming?

Long term scheduler

783.A tree in which the value in every node is more than node-values in its left subtree and less than node-values in its right subtree:

Binary Search Tree

784.We use _____ name PL/SQL program objects and units.

- A) Lexical Units
- B) Literals
- C) Delimiters
- D) Identifiers**

785.Code not included in code conversion standard is

786.Which of the following is a scheduling algorithm that allows a process to move up and down between queues?

- (A) Round Robin(RR) scheduling
- (B) First Come First Served (FCFS) scheduling
- (C) Multilevel feedback queue scheduling**
- (D) Shortest Job First (SJF) scheduling

787.

A matrix which has most of its values equal to 0:

788.The longer a fault exists in software

- a) the more tedious its removal becomes
- b) the more costly it is to detect and correct
- c) the less likely it is to be properly corrected
- d) **All of the mentioned**

789.A _____ is an explicit numeric, character, string or Boolean value not represented by an identifier.

- A) Comments
- B) Literals**
- C) Delimiters
- D) Identifiers

790.OR gates are converted to NAND gates using

NOT GATE

791.A sparse matrix can also be represented using:

- a: queue
- b: stack
- c: tree
- d: linked list**

792.Arrange the following steps to form a basic/general Engineering Process Model

1. Test, 2. Design, 3. Install, 4. Specification,

5. Manufacture, 6. Maintain

- a) 2, 4, 5, 1, 6, 3
- b) **4, 2, 5, 1, 3, 6**
- c) 2, 4, 5, 1, 3, 6
- d) 4, 2, 5, 1, 6, 3

793..... commands are automatically loaded into main memory when the booting process gets completed.

- (A) External
- (B) **Internal**
- (C) Both (A) & (B)
- (D) None

794.If no header is specified, the block is said to be an _____ PL/SQL block

- A) Strong
- B) Weak
- C) Empty
- D) **Anonymous**

795.To implement Boolean function with NAND gates we convert function to

- A. AND logic
- B. OR logic
- C. NOR logic
- D. NAND logic**

796.Which one of the following is not a step of requirement engineering?

- a) elicitation
- b) design**
- c) analysis
- d) documentation

797._____ is a sequence of zero or more characters enclosed by single quotes.

string literal

798.A B-tree grows at

leaf

799.Which of the following is an example of Batch Processing Operating Systems?

- (A) Lynx OS
- (B) Mac OS
- (C) UNIX**
- (D) None of the above

800.Rather than AND-OR gates combinational circuits are made by

- A. NAND-NOR**
- B. NAND-OR
- C. OR only
- D. AND only

801.A binary tree grows at

- a: root
 - b: **leaves**
 - c: braches
 - d: any of the above

802..... process checks to ensure the components of the computer are operating and

connected properly.

a.Booting b.Processing c.saving d.editing

803.Shell sort is an improvisation over sort.

804.QFD stands for

Quality function deployment

805.Which of the following is true for the algorithms for memory allocation?

- (A) First Fit
 - (B) Best Fit
 - (C) Worst Fit
 - (D) All of the above**

806. Combinations that are not listed for input variables are

- a.overflow
 - b.carry
 - c.borrow
 - d.**don't care**

807. To reduce disk-accesses while searching for a record, the tree used is tree.

- a: binary sorted tree
 - b: **B-tree**
 - c: general tree
 - d: AVL tree

808.Which according to you is the most important stakeholder from the following?

- a) Entry level personnel
 - b) Middle level stakeholder
 - c) Managers
 - d) **Users of the software**

809..... is a way of processing data serially.

- (A) **spooling**
 - (B) caching

- (C) Paging
- (D) All of the above

810. Multiple variable xor is defined as

- A. inverted or function
- B. prime function
- C. even function
- D. odd function**

811. What are the four dimensions of Dependability

- a) Usability, Reliability, Security, Flexibility
- b) Availability, Reliability, Maintainability, Security
- c) Availability, Reliability, Security, Safety**
- d) Security, Safety, Testability, Usability

812. While calculating time-complexity, the program-time which is considered is:

- a: compile time
- b: execution time**
- c: both compile and run-time
- d: none of the above

813. Which type of scheduler typically uses a FIFO or Priority queue?

- (A) Short Term Scheduler**
- (B) Medium Term Scheduler
- (C) Long Term Scheduler
- (D) All of the above

814. Flipflops are

815. Which of the following is a solution to fragmentation problem?

- (A) Thread
- (B) Kernel
- (C) Paging**
- (D) All of the above

816. The time complexity of the following algorithm is:

```
sum(a,n){
```

```
    s=0;
```

```
    for i= 1 to n
```

```
{
```

```
s=s+a[i];
```

```
}
```

```
return s;
```

```
}
```

ANS: $5N+3 \Rightarrow O(N)$

817. Reduction of flip-flops in a sequential circuit is referred to as

- A. reduction
- B. state reduction**
- C. next state
- D. both a and b

818. What are the types of requirement in Quality Function Deployment(QFD)

- a) Known, Unknown, Undreamed
- b) User, Developer
- c) Functional, Non-Functional
- d) **Normal, Expected, Exciting**

819. How many Scenarios are there in elicitation activities?

- a) One**
- b) Two
- c) Three
- d) **Four**

As-is Scenario, Visionary Scenario, Evaluation Scenario and Training Scenario

820. Switch which clears flipflop to its initial state is called

- A. clock
- B. invert
- C. hold
- D. clear**

821. Which of the following scheduling algorithms provide minimum average waiting time?

- a) FCFS
- b) **SJF**
- c) Round – robin
- d) Priority

822.Complexity of heap sort (**n log(n)**)

823.In moore model outputs are functions of

- A. present state
- B. input state
- C. next state
- D. both a and b**

824.Medium term scheduler is based on

- (A) Scroll in, Scroll out
- (B) Fetch in, Fetch out
- (C) Swap in, Swap out**
- (D) None of the above

825.Static analysers are software tools for _____

Source code analysis.

826. If there are more than one paths between two nodes, it is a:

- | | |
|-------------------------|----------------------|
| a: tree | b: graph |
| c: circular linked list | d: none of the above |

827.State of flipflop can be switched by changing its----signals

- a)**input**
- b)output
- c)triggering
- d)clearing

828._____checks the consistency of routine and procedure declarations and their use.

Ans:Interface analysis

Information flow analysis:Identifies the dependencies between input and output variables.

Path analysis:identifies the all possible paths through the program and set out the statements executed in that path.

829.Which of the following is a type of Semaphores?

- a) mutex & counting
- b) binary & counting**
- c) counting & decimal
- d) decimal & binary

830.The leaf nodes of a tree have height equal to:

- | | |
|-----------------------|------------------|
| a: height of the tree | b: zero |
| c: one | d: none of these |

831.A binary tree with n internal nodes has a max. of external nodes equal to:

- a: n-1
- b: **n+1**
- c: n
- d: n/2

832.The philosophy behind _____ is defect avoidance rather than defect removal .

ANS:**Cleanroom SE**

833.Latches are

834..... systems are required to complete a critical task within a guaranteed amount of time.

- A. Virtual
- B. Soft real time
- C. **Hard Real time**
- D. None of these

835.Long Term Scheduler is a.....

- (A) CPU scheduler
- (B) process swapping scheduler
- (C) **job scheduler**
- (D) None of the above

836.Momentary change in state of flipflop is called

- A)tri-state
- B)unstable state
- C)inverter
- d) **trigger**

837.In _____ start with high-level system and integrate from the top-down replacing individual components by stubs where appropriate

ANS:**Top-Down Testing.**

838.Height of a full binary tree with n internal nodes is:

- a: n log n
- b: n
- c: n+1
- d: **log n**

839.First Come First Serve(FCFS) is

- (A) Preemptive scheduling
- (B) **Non-preemptive scheduling**
- (C) deadline scheduling
- (D) None of the above

840.Feedback among logic gates make asynchronous system

- A. stable
- B. unstable**
- C. complex
- D. combinational

841.The degree of a leaf node is:

a: 1

b: 0

c: -1

d: 2

842. _____ testing exercises the system beyond its maximum design load.

ANS: Stress testing

843. _____ are an alternative function-related measure to function points when 4GLs or similar languages are used for development

ANS: Object Points

844. Definite time in a flipflop is called

- A. clear time
- B. pulse time
- C. hold time**
- D. reset time

845. is a system call that causes the caller to block.

ANS: Sleep

846. A right in-threaded binary tree contains:

847. is the process of switching of CPU from one thread to another.

ANS: Context Switching

848. ___ is the number of functions which are called by function X

849.. A two-dimensional array array[1:3, 1:3] contains _____ elements.

850. M flip-flops produces

- A. $2^m - 1$ states
- B. 2^m states
- C. 2^{m+1} states
- D. 2^m states**

851. The measure of the average length of words and sentences in documents is termed as _____.

852. The algorithm used in dynamic memory allocation with minimum time:

- | | |
|---------------------|-------------|
| a: First fit | b: Best fit |
| c: Worst fit | d: Next fit |

853.Which of the following is an example of Real Time Operating Systems?

- (A) **Lynx OS**
- (B) Mac OS
- (C) UNIX
- (D) None of the above

854.Next state of $B(t)$ will be

855.In mealy model outputs are functions of **current state and current inputs**

856.Which of the following is a function of an OS?

- (A) Process Management
- (B) I/O Management
- (C) Memory Management
- (D) **All of the above**

857.Which of the following is/are the operations performed by kruskal's algorithm.

i) **sort the edges of G in increasing order by length** ii) **keep a subgraph S of G initially empty** iii)
builds a tree one vertex at a time

ANS:I and ii

858.

A _____ is an old system that still provides essential business services

ANS:**Legacy Systems**

859.

The _____ defines the types of documents to be managed and a document naming scheme

860..... is a technique used to speed up communication with slow devices

- (A) Fragmentation
- (B) **Caching**
- (C) Segmentation
- (D) None of the above.

861.A multi-dimensional array $\text{array}[0:2, 10:20, 3:4, -10:2]$ contains _____ elements.

862.In T flipflop when state of T flipflop has to be complemented T must be

- A. 0
- B. 1**
- C. t

D. t+1

863.Rather than build a subgraph one edge at a time builds a tree one vertex at a time.

- A) kruskal's algorithm
- B) **prim's algorithm**
- C) dijkstra algorithm
- D) bellman ford algorithm.

864.Time sequence for flip-flop can be enumerated by

A. state table

- B. map
- C. truth table
- D. graph

865.Dijkstra's banking algorithm for resource allocation is used for

- (A) Deadlock detection
- (B) Deadlock prevention
- (C) **Deadlock avoidance**
- (D) Deadlock recovery

866.

Which of the following is not an advantage of software reuse?

- a) lower costs
- b) faster software development
- c) **high effectiveness**
- d) lower risks

867.Table that lists inputs for required change of states is called

Flip flop excitation table

868.

..... is known as a greedy algorithm, because it chooses at each step the cheapest edge to add to subgraph S.

- A)Kruskal'salgorithm**
- B)Prim'salgorithm
- C)Dijkstraalgorith
- D) Bellman ford algorithm

869.

Which of the following is/are commonly used architectural pattern(s)?

- a) Model-View-Controller
- b) Layered Architecture
- c) Client-server
- d) **All of the mentioned**

870.

..... is the smallest unit for processing that consists of a program counter, a stack &

a set of registers.

- (A) Compiler
- (B) **Thread**
- (C) Heap
- (D) None of the above

871.

Which of the following services is not supported by the OS?

- (A) I/O Operation
- (B) Protection
- (C) **Compilation**
- (D) None of the above

872. Classification of sequential circuit depends on timings of their

- A. feedback path
- B. gates
- C. **signals**
- D. complex circuits

873. The recurring aspects of designs are called design.....

- a) **Patterns**
- b) documents
- c) structures
- d) method

874

The result of prim's algorithm is a total time bound of

- A) O(logn)
- B) **O(m+n logn)**
- C) O(mn)
- D) O(m logn)

875.

SRD stands for:

- a. Software Requirements Definition
- b. **Structured Requirements Definition**
- c. Software Requirements Diagram
- d. Structured Requirements Diagram

876.

Which of the following is used to remove deadlock?

- (A) **Preemption**
- (B) Mutual Exclusion
- (C) Circular Wait
- (D) None of the above

877.

The process updates the costs of all the vertices V, connected to a vertex U, if we could improve the best estimate of the shortest path to V by including (U,V) in the path to V.

A)relaxation

- B)improvement
- C)shortening
- D) Costing

878.Which state a flip-flop circuits can maintain as long as a power is delivered to circuit?

- A. n states
- B. tri state
- C. binary state**
- D. octa state

879.Negative transition in flip-flops are referred to as

- A. clock
- B. negative edge**
- C. positive edge
- D. both a and b

880.If every requirement can be checked by a cost-effective process, then the SRS is

- A)verifiable** b)traceable c)modifiable d)complete

881.

..... turns out that one can find the shortest paths from a given source to all points in a graph in the same time.

Dijistras Algoirthm

882. First Come First Serve (FCFS) Scheduling is.....

- (A) Preemptive scheduling
- (B) Non-preemptive scheduling**
- (C) deadline scheduling
- (D) None of the above

883. Requirements can be refined using:

A)the waterfall model b)prototyping model c)the evolutionary model d) the spiral model

884. Clock generator, generates periodic train of

- A. feedback path
- B. gates
- C. clock pulses**
- D. both a and b

885.

..... keeps two sets of vertices; S, the set of vertices whose shortest paths from the source have already been determined and V-S, the remaining vertices.

- A)Kruskal's algorithm
- B)Prim's algorithm
- C)Dijkstra algorithm**
- D) Bellman ford algorithm

886. is a system call of OS that is used to create a new process?

Fork()

887. In flipflop if set input is returned to 0, output

0

888.

Structured charts are a product of

- A)Requirements gathering b)Requirements Analysis c)**Design** D)Coding

889.

..... Is a more generalized single source shortest path algorithm which can find the shortest path in a graph with negative weighted edges?

- A) Kruskal's algorithm
- B) Prim's algorithm
- C) Dijkstra's algorithm
- D) Bellman Ford algorithm**

890.

Which of the following is an example of Cooperative MultiTasking OS?

- (A) Lynx OS
- (B) Mac OS**
- (C) MS DOS
- (D) None of the above

891. By default counters are incremented by

Ans: **One**

892. The performance of Round Robin(RR) scheduling depends on.....

- (A) quantum**
- (B) priority
- (C) preemption
- (D) None of the above

893. A sample application of algorithm is to solve critical path problem, i.e. finding the longest path through a DAG.

- A) DAG application path algorithm
- B) DAG shortest path algorithm**
- C) DAG critical path algorithm
- D) Bellman Ford algorithm

894. Which is not a step of requirement engineering?

- a. Requirements elicitation
- b. Requirements analysis
- c. Requirements design**
- d. Requirements documentation

895.

..... occurs in a dynamic memory allocation system when most of the free blocks are

too small to satisfy any request?

Ans: **Fragmentation**

896.Simplest registers only consists of

- A. counter
- B. EPROM
- C. latch
- D. flip-flop**

897.The floyd-warshall all pairs shortest path algorithm computes the shortest paths between each pair of nodes in

- A)O(logn)
- B)O(n^2)
- C)O(mn)
- D) O(n^3)**

898.Which of the following is not a Requirement Management workbench tool?

- a) RTM
- b) DOORS
- c) Rational Suite**
- d) RDD 100

899.

According to a statistical report: “over 30% of all software projects are cancelled before completion and over 70% of the remainder fail to deliver expected features”. What must be the reason for such a situation?

- a) Poor change management
- b) Poor requirements management
- c) Poor quality control
- d) All of the mentioned**

900.Which of the following holds the data currently being worked on?

- (A) Stack pointer
- (B) Program Counter
- (C) Accumulator**
- (D) None of the above

901.

A decimal counter has _____ states

- a) 5
- b) 10**
- c) 15
- d) 20

902.

Dijkstra algorithm is also called the shortest path problem.

- A) multiple source
- B) single source**
- C) single destination
- D) multiple destination

903. Memory that is called a read write memory is

- A. ROM
- B. EPROM
- C. RAM**
- D. Registers

904.

The total number of processes completed per unit time is termed as

- a) Output
- b) Throughput**
- c) Efficiency
- d) Capacity

905.COTS stands for_____

- a) Commercial Off-The-Shelf systems**
- b) Commercial Off-The-Shelf states
- c) Commercial Off-The-System state
- d) None of the mentioned

906.

Let LASTPOST, LASTIN and LASTPRE denote the last vertex visited in a postorder, inorder and preorder traversal. Respectively, of a complete binary tree. Which of the following is always true?

- (a) LASTIN = LASTPOST
- (b) LASTIN = LASTPRE
- (c) LASTPRE = LASTPOST
- (d) None of the above**

907.

2 left shifts are referred to as multiplication with **2^2**

908.

..... is generic and that can run on any OS.

Ans:**User level thread**

909.

Which of the following property does not correspond to a good Software Requirements Specification (SRS)?

- a) Verifiable
 - b) **Ambiguous**
 - c) Complete
 - d) Traceable

910.The most appropriate matching for the following pairs

X: Indirect addressing 1: Loops Y: Immediate addressing 2: Pointers Z: Auto decrement addressing 3: Constants

Ans:x2,y3,z1

910.

The most appropriate matching for the following pairs

X: depth first search 1: heap

Y: breadth-first search 2: queue

Z: sorting 3: stack

ANSWER:X—3 Y—2 Z-1

911.

Which of the following is multi threading model?

912.

Consider the following nested representation of binary trees: (X Y Z) indicates Y and Z are the left and right substress, respectively, of node X. Note that Y and Z may be NULL, or further nested. Which of the following represents a valid binary tree?

- A) $(1 \ 2 \ (4 \ 5 \ 6 \ 7))$
B) $(1 \ (2 \ 3 \ 4) \ 5 \ 6) \ 7)$
C) $(1 \ (2 \ 3 \ 4)(5 \ 6 \ 7))$
D) $(1 \ (2 \ 3 \ \text{NULL}) \ (4 \ 5))$

913. Ripple counters are also called

- A. SSI counters
 - B. asynchronous counters**

- C. synchronous counters
- D. VLSI counters

914.The SRS is said to be consistent if and only if:

- a) its structure and style are such that any changes to the requirements can be made easily while retaining the style and structure.
- b) every requirement stated therein is one that the software shall meet
- c) every requirement stated therein is verifiable
- d) no subset of individual requirements described in it conflict with each other**

915.Consider the following Statement: "The output of a program shall be given within 10secs of event X 10% of the time". What characteristic of SRS is being depicted here?

- a) Consistent
- b) Verifiable**
- c) Non-verifiable
- d) Correct

916.....files represent physical devices like printers, terminals etc.,

- (A) Ordinary files
- (B) Directory files
- (C) Special files**
- (D) None of the above

917.Let s be a sorted array of n integers. Let t(n) denote the time taken for the most efficient algorithm to determine if there are two elements with sum less than 1000 in s. which of the following statements is true?

- a) t (n) is 0 (1)**
- b) $n < t (n) < n \log 2n$
- c) $n \log 2n < t (n) < nC2$
- d) $t (n) = nC2$

918.Binary counter that count incrementally and decremently is called

- a) Up-down counter**
- b) LSI counters
- c) Down counter
- d) Up counter

919.Shift registers having four bits will enable shift control signal for

- A. 2 clock pulses
- B. 3 clock pulses
- C. 4 clock pulses**
- D. 5 clock pulses

920.B+ trees are preferred to binary trees in databases because

- (A) Disk capacities are greater than memory capacities
- (B) **Disk access is much slower than memory access**
- (C) Disk data transfer rates are much less than memory data transfer rates
- (D) Disks are more reliable than memory

921. At Conceptual level Class diagrams should include:

- a) operations only
- b) **attributes only**
- c) both (a) and (b)
- d) None of the mentioned

922. An interrupt that is reserved for unrecoverable memory errors is called.....

- a) **nonmaskable interrupts**
- b) blocked interrupts
- c) maskable interrupts
- d) none of the mentioned

923. Process Control Block (PCB) is also called.....

A. Task Controlling Block

- B. Control block
- C. Memory Block
- D. Data Block

924.

Consider the label sequences obtained by the following pairs of traversals on a labeled binary tree. Which of these pairs identify a tree uniquely?

- i) preorder and postorder
 - ii) inorder and postorder
 - iii) preorder and inorder
 - iv) level order and postorder
- a) (i) only
 - b) **(ii), (iii)**
 - c) (iii) only
 - d) (iv) only

925. Which of the following pattern is the basis of interaction management in many web-based systems?

- a) architecture
- b) repository pattern
- c) **model-view-controller**
- d) different operating system

926. A group of binary cells is called

- A. counter
- B. register**
- C. latch
- D. flip-flop

927. The process that is currently being executed is called

ANS:Running

928.Synchronous counter is a type of

- a) SSI counters
- b) LSI counters
- c) **MSI counters**
- d) VLSI counters

929.The following numbers are inserted into an empty binary search tree in the given order: 10, 1, 3, 5, 15, 12, 16. What is the height of the binary search tree (the height is the maximum distance of a leaf node from the root)?

- a) 2
- b) 3**
- c) 4
- d) 6

930.The context diagram is also known as:_____

Context-Level Data-Flow Diagram or a Level-0 Data Flow Diagram

931.A 8bit flip-flop will have

- A. 2binary cells
- B. 4binary cells
- C. 6binary cells
- D. 8binary cells**

932.ER model shows the _____

- a. **Static view**
- b. Functional view
- c. Dynamic view
- d. All the above

933..... holds the address of the next instruction to be executed?

ANS:Program Counter

934.A data structure is required for storing a set of integers such that each of the following operations can be done in $(\log n)$ time, where n is the number of elements in the set.

- o Delection of the smallest element
- o Insertion of an element if it is not already present in the set

Which of the following data structures can be used for this purpose?

- (a) A heap can be used but not a balanced binary search tree
- (b) A balanced binary search tree can be used but not a heap**
- (c) Both balanced binary search tree and heap can be used
- (d) Neither balanced binary search tree nor heap can be used

935.Which of the following condition leads to deadlock?

- a) mutual exclusion
- b) a process may hold allocated resources while awaiting assignment of other resources
- c) no resource can be forcibly removed from a process holding it
- d) **all of the mentioned**

936.Which of the property of software modularity is incorrect with respect to benefits software modularity?

- a) Modules are robust.
- b) Module can use other modules
- c) Modules Can be separately compiled and stored in a library.
- d) **Modules are mostly dependent.**

937.The best data structure to check whether an arithmetic expression has balanced parentheses is a

A:queue

B:**stack**

C:tree

D:list

938.Parallel load transfer is done in

- A. 1 cycle**
- B. 2 cycle
- C. 3 cycle
- D. 4 cycle.

939._____ is a measure of the degree of interdependence between modules

- a) Cohesion
- b) Coupling**
- c) None of the mentioned

940.Level order traversal of a rooted tree can be done by starting from the root and performing

- a) preorder traversal
- b) in-order traversal
- c) depth first search
- d) breadth first search**

941.To start counting enable input should be

942.Effective bandwidth is bandwidth that network needs to allocate for the

- A. Flow of Data**
- B. Flow of Cost
- C. Flow of Traffic**
- D. Flow of Amount

943.Ripple counter can not be described by

A. Boolean equation

- B. clock duration
- C. graph
- D.
- E. flow chart

944.Which of the following is not a use of a CASE tool?

- a. Support structured analysis and design (SA/SD)
- b. Maintains the data dictionary
- c. Checks whether DFDs are balanced or not
- d. **It complies with the available system.**

945.Which type of scheduler is used in batch systems?

- (A) Medium Term Scheduler
- (B) Short Term Scheduler
- (C) Long Term Scheduler**
- (D) None of the above

946.Postorder traversal of a given binary search tree, T produces the following sequence of keys

10, 9, 23, 22, 27, 25, 15, 50, 95, 60, 40, 29

Which one of the following sequences of keys can be the result of an in-order traversal of the tree T?

- a) **9, 10, 15, 22, 23, 25, 27, 29, 40, 50, 60, 95**
- b) 9, 10, 15, 22, 40, 50, 60, 95, 23, 25, 27, 29
- c) 29, 15, 9, 10, 25, 22, 23, 27, 40, 60, 50, 95
- d) 95, 50, 60, 40, 27, 23, 22, 25, 10, 9, 15, 29

947.What DFD notation is represented by the Rectangle?

- a) Transform
- b) Data Store**
- c) Function
- d) None of the mentioned

948.In Quality of Service, Jitter is variation in delay for packets belonging to the

A. Same Flow

- B. Parallel Flow
- C. Protocol Flow
- D. Both B & C

949.Time between clock pulses are called

- A. bit duration
- B. clock duration
- C. duration
- D. bit time**

950.In the worst case, the number of comparisons needed to search a singly linked list of length n for a given element is

- a) $\log 2 n$
- b) $n/2$
- c) $\log 2 n - 1$
- d) n**

951.In DFDs, user interactions with the system is denoted by:

- a) Circle**
- b) Arrow
- c) Rectangle
- d) Triangle

952.Message queuing is managed by?

- (A) Shell
- (B) Kernel**
- (C) Fork
- (D) None of the above

953.Control unit in serial computer generates a

954.Which one of the following in place sorting algorithms needs the minimum number of swaps?

- (A) Quick sort
- (B) Insertion sort
- (C) Selection sort**
- (D) Heap sort

955.Interrupt latency should be..... for Real Time Operating Systems (RTOS)?

- (A) minimal**
- (B) maximum
- (C) zero
- (D) None of the above

956.Which of the following is not a user interface design process?

- a) User, task, and environment analysis and modeling
- b) Interface design
- c) **Knowledgeable, frequent users**
- d) Interface validation

957.J=K=0 will make flip-flops

- A. changed
- B. reversed
- C. unchanged**
- D. Stopped.

958. Suppose the numbers 7, 5, 1, 8, 3, 6, 0, 9, 4, 2 are inserted in that order into an initially empty binary search tree. The binary search tree uses the usual ordering on natural numbers. What is the in-order traversal sequence of the resultant tree?

- a) 7 5 1 0 3 2 4 6 8 9
- b) 0 2 4 3 1 6 5 9 8 7
- c) 0 1 2 3 4 5 6 7 8 9**
- d) 9 8 6 4 2 3 0 1 5 7

959. The height of a binary tree is the maximum number of edges in any root to leaf path. The maximum number of nodes in a binary tree of height h is:

- (A) $2^h - 1$
- (B) $2^{(h-1)} - 1$
- (C) $2^{(h+1)} - 1$**
- (D) $2^{*(h+1)}$

960. Down counter decrement value by

- A. 1**
- B. 2
- C. 3
- D. 4

961. Which design identifies the software as a system with many components interacting with each other?

- a. **Architectural design**
- b. High-level design
- c. Detailed design
- d. Both B & C.

962. In Integrated Services, when a source makes a reservation, it needs to define a

- A. Flow Control
- B. Timer
- C. Error Solution
- D. Flow Specification**

963. Which of the following sorting algorithms has the lowest worst-case complexity?

- a) Insertion sort
- b) Selection sort
- c) Quick sort
- d) Heap sort**

964. The high paging activity is called.....

- a) Inter process communication
- b) Thrashing**
- c) Context Switch
- d) None of the above

965. What incorporates data, architectural, interface, and procedural representations of the software?

a) design model

b) user's model

c) mental image

d) system image

966.BCD stands for

a. **Binary Coded Decimal**

b. Bit Coded Decimal

c. Binary Coded Digit

d. Bit Coded Digit

967.Which is not a valid state of a thread?

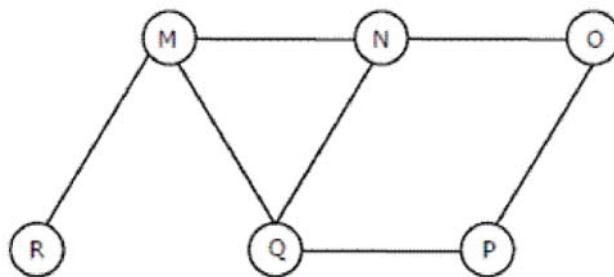
a) running

b) parsing

c) ready

d) blocked

968.The Breadth First Search algorithm has been implemented using the queue data structure. One possible order of visiting the nodes of the following graph is



(A) MNOPQR

(B) NQMPOR

(C) **QMNPOR**

(D) QMNPOR

969.PLA stands for

A. programmable lead array

B. programmable logic agency

C. predicted logic array

D. programmable logic array

970.What is the maximum height of any AVL-tree with 7 nodes? Assume that the height of a tree with a single node is 0.

(A) 2

(B) 3

(C) 4

(D) 5

971.A BCD counter is a

A. mod-5 counter

B. mod-10 counter

C. mod-15 counter

D. mod-20 counter

972.Four different attributes to control traffic have been devised in

- A. Data Relay
- B. Source Relay
- C. Frame Relay**
- D. IP Relay

973.To implement Dijkstra's shortest path algorithm on unweighted graphs so that it runs in linear time, the data structure to be used is:

- A. Queue**
- B. Stack
- C. Heap
- D. B-Tree

974.The register is read by the host to get input

- a) flow in
- b) flow out
- c) data in**
- d) data out.

975.Binary ripple counter is made up of

- A. T flip-flop
- B. JK flip-flop
- C. RS flip-flop
- D. both a and b**

976.7 segment generates output

- A. a to b
- B. a to f
- C. a to g**
- D. a to z

977.Which one of the following is a key factor for preferring B-trees to binary search trees for indexing database relations?

- (a)Database relations have a large number of records
- (b) Database relations are sorted on the primary key
- (c) B-trees require less memory than binary search trees
- (d) **Data transfer from disks is in blocks**

978.Frames from one LAN can be transmitted to another LAN via the device

- A. Router
- B. Bridge**
- C. Repeater
- D. Modem
- E. None of the above

979.In a complete binary tree, the number of leaves with n internal nodes is: **(n+1)/2**

980.The register is read by the host to get input

- a) flow in
- b) flow out
- c) data in**
- d) data out.

981.In 14 pin gate pin no 7 is

- A. Vcc
- B. Vdd
- C. ground**
- D. AC

982.The recurrence relation capturing the optimal time of the Tower of Hanoi problem with n discs is

- (A) $T(n) = 2T(n - 2) + 2$
- (B) $T(n) = 2T(n - 1) + n$
- (C) $T(n) = 2T(n/2) + 1$
- (D) $T(n) = 2T(n - 1) + 1$**

983.What is a stub network?

A network that has one entry point and one exit point.

984.BCD to 7 segment is

- A. decoder**
- B. encoder
- C. Multiplexer
- D. Demultiplexer

985.3x8 decoder will have

3 inputs and 8 outputs

986.The preorder traversal sequence of a binary search tree is 30, 20, 10, 15, 25, 23, 39, 35, 42. Which one of the following is the postorder traversal sequence of the same tree?

- (A) 10, 20, 15, 23, 25, 35, 42, 39, 30
- (B) 15, 10, 25, 23, 20, 42, 35, 39, 30
- (C) 15, 20, 10, 23, 25, 42, 35, 39, 30
- (D) 15, 10, 23, 25, 20, 35, 42, 39, 30**

987.Which of the following device is used to connect two systems, especially if the systems use different protocols?

- A. hub
- B. bridge
- C. gateway**
- D. repeater
- E. None of the above

988.Which one of the below is divide and conquer approach?

- A - *Insertion Sort*
- B - *Merge Sort***

C - Shell Sort

D - Heap Sort

989.Match the following:

A. Repeaters 1. Data Link Layer

B. Bridges 2. Network Layer

C. Routers 3. Physical Layer

A. A --->2, B--->3, C--->1

B. **A--->3, B--->1, C--->2**

C. A--->3,B---->2, C---->1

D. A---->1, B---->2, C---->3

990.Control of shift register labeled as SH/LD =0 will be in **parallel load mode**

991.In most of logic gates 1 means

A. 0V

B. 1V

C. 5V

D. 10V

992.Stack is used for

993.Producer – Consumer problem, one of the classical problems of synchronization is also called.....

Bounded Buffer Problem.

994.Match the following:

1. Segments A. Associated with Data Link Layer

2. **Packets** B. Associated with Network Layer

3. Frames **C. Associated with Transport Layer**

3-A,2-C,1-B

995.In 14 pin gate pin no 14 is

A. Vcc

B. Vdd

C. ground

D. AC.

996.Minimum number of queues required for priority queue implementation?

- A)One
- B)**Two**
- C)Three
- D)Four

997.Which of the following algorithm is not stable?

- a) Insertion sort
- b) **Selection sort**
- c) Bubble sort
- d) Merge sort

998.When J and complement of K are 1, flipflop QA after shift is equal to

- A. 1**
- B. 0
- C. reset
- D. defined

999.Which of the following command is used to print current working directory in Unix?

ANS:**PWD**

1000.Which of the below given sorting techniques has highest best-case runtime complexity -

- (A) Quick sort
- (B) Selection sort**
- (C) Insertion sort
- (D) Bubble sort

1001.In OSI network architecture, the dialogue control and token management are responsibilities of ?

- a. session layer**
- b. network layer
- c. transport layer
- d. data link layer
- e. none of above

1002.To clear flip-flops we use

- A. toggle switch**
- B. push button
- C. Multiplexer
- D. Demultiplexer

1003.Two cross coupled NAND gates make

- A. SR Latch**
- B. RS flip-flop

- C. D flip-flop
- D. master slave flip-flop

1004..... is a classic synchronization problem that involves the allocation of limited resources amongst a group of processes in a deadlock free and starvation free manner.

Dining philosopher problem.

1005.Which of the following uses memoization?

- a. Greedy approach
- b. Divide and conquer approach
- c. **Dynamic programming approach**
- d. None of the above

1006.Heap is an example of

1007.Mostly gates works on

- A. 5V
- B. 4V
- C. 3V
- D. 2V

1008..... is a system call that returns the process ID of the parent of the current process.

ANS: getpid()

1009.Relationship between clock output and master slave output gives

- A. timing diagram
- B. map
- C. chart
- D. Table.

1010.From a complete graph, by removing maximum _____ edges, we can construct a spanning tree.

- a. **e-n+1**
- b. n-e+1
- c. n+e-1
- d. e-n-1

1011.

What is the main function of transport layer?

- A) Node to node delivery
- B) End to end delivery**
- C) Synchronization
- D) Updating and maintaining routing tables

1012.

Which of the following is standard print command in Unix?

1013.

Full adder consists of

1014.

An adaptive sorting algorithm -

Bubble Sort,Insertion Sort,

1015.

The time required to search an element in a linked of length n is

ANS:**O(n).**

1016.

In Unix, “file” command is used to determine

File type of a file.

1017.

Strobe S in a mux acts as

- A. enable**
- B. reset
- C. clear
- D. stop

1018.

The complexity of linear search algorithm is **$O(n)$**

1019.

Two sub layers of OSI Data Link layer are which of the following?

Logical link control and media access control

1020.

IC no of NOT gate

7404

1021.

Four gates in a package is called

- A. biruple
- B. octruple
- C. dualtuple
- D. quadruple**

1022.

The complexity of binary search algorithm is **$O(\log n)$**

1023.

..... provides an Interface between the process and the Operating System

ANS:SYSTEM CALL

1024.

The resolution of externally defined symbols is performed by?

Linker

1025.A search begins the search with the element that is located in the middle of array

ANS:BINARY SEARCH.

1026.

7404 is a

Ans:7404 is a NOT gate IC.

1027.

..... is a system call that runs an executable file into an existing process.

ANS:EXEC.

1028.

The complexity of Bubble sort algorithm is **$O(n^2)$**

1029.Decimal digit in BCD can be represented by

- A. 1 input line
- B. 2 input lines
- C. 3 input lines
- D. 4 input lines**

1030.IC of 7 segment display contains

- A. 4 leds
- B. 5 leds
- C. 6 leds
- D. 7 leds**

1031.

The complexity of Insertion sort algorithm is

Best case $O(n)$

Average and Worst case $O(n^2)$

1032.

One userlevel thread is mapped to many kernel level thread is known as....

- a) Many to One model
- b) **One to Many model**
- c) Many to Many model
- d) One to One model

1033.In Operating Systems, a single thread is termed as

ANS:**Light weight process**

1034.Counters that transfer invalid states to valid states are called

- A. valid counters
- B. self-starting counters
- C. invalid counters**
- D. undefined counters

1035.

The complexity of Merge sort algorithm **is o(nlogn)**

1036.

Which of the following sorting algorithms does not have a worst case running time of O(n²)

Quick sort

Selection Sort

Insertion Sort

Bubble Sort

None of the above

1037..... is a system call that returns the process ID of current process.

Getpid()

1038. In BCD no. 1010 has

- A. meaning
- B. no meaning**
- C. value
- D. Vcc

1039.In Unix, “cat” command is used to display

ANS:**concatenate**

1040.Control of shift register labeled as SH/LD =1 will **shift**

1041.To sort many large objects or structures, it would be most efficient to

A-Place reference to them in an array and sort the array

B **Place them in a linked list and sort the linked list**
:

C-Place pointers to them in an array and sort the array

D Place them in an array and sort the array
:

1042.Which of the following command is used to create terminal connection to another host in Unix?

ANS:**telnet**

1043.

Shift register whose input is connected to select output is called **feedback shift register**

1044.

Which of the following sorting procedure is the slowest?

A Quick sort

B Heap sort

C Shell sort

D **Bubble**
sort

1045.4 bit gray code can be converted into

A. 4bit binary

B. 3bit binary

C. 2bit binary

D. 1bit binary

1046.file system with 300 GByte disk uses a file descriptor with 8 direct block addresses, 1 indirect block address and 1 doubly indirect block address. The size of each disk block is 128 Bytes and the size of each disk block address is 8 Bytes. The maximum possible file size in this file system is

(A) 3 Kbytes

(B) **35 Kbytes**

(C) 280 Bytes

(D) Dependent on the size of the disk

1047.

Which of the following algorithm design technique is used in the quick sort algorithm?

A)Dynamic programming

B)Backtracking

C)Divide and conquer

D)Greedy method

1048.

The number of swapping needed to sort numbers 8,22,7,9,31,19,5,13 in ascending order using bubble sort is ?

- (a) 11 (b) 12
(c) 13 (d) **14**

1049.

Which protocol working at the Transport layer provides a connectionless service between hosts?

- A)IP
B)ARP
C)TCP
D)**UDP**

1050.Lamp handball game uses application of

- A. unidirectional shift register
B. bidirectional shift register
C. serial shift register
D. parallel shift register

1051.A process executes the code

```
fork();  
fork();  
fork();
```

The total number of child processes created is

Ans:**2^3-1**.

1052.

Which of the following statement is true ?

1053.Parity checker is used for

- A. detection
B. testing
C. debugging
D. error

1054.Given two sorted lists of size m and n respectively. The number of comparisons needed in the worst case by the merge sort algorithm will be?

- A. $m \times n$
B. $\max(m, n)$
C. $\min(m, n)$
D. $m+n-1$

1055. ICMP [Internet Control Message Protocol] is primarily used for

- a) **error and diagnostic functions**
b) addressing
c) forwarding
d) none of the mentioned

1056. At start of lamp handball game ball (indicator lamp) is placed at

- A. top

- B. left
- C. bottom
- D. right**

1057. Which of the following TCP/IP protocol is used for transferring electronic mail messages from one machine to another?

SMTP

1058. Rate of movement of light in lamp handball game is determined by clock's

- A. input
- B. frequency**
- C. voltage
- D. current

1059. Merge sort uses ?

Divide and conquer algorithm

1060. The following sequence of operation is performed on stack :

push(1),push(2),pop,push(1),push(2),pop,pop,pop,push(2),pop.

The sequence of popped out values are ?

- A. 2,2,1,1,2**
- B. 2,2,1,2,2
- C. 2,1,2,2,1
- D. 2,1,2,2,2

1060. Let the time taken to switch between users the kernel modes of execution be t1 while the time taken to switch between two processes be t2. Which of the following is TRUE?

- (A) t1 > t2
- (B) t1 = t2
- (C) t1 < t2**
- (D) Nothing can be said about the relation between t1 and t2

1062. After 9 counts BCD counter goes back to

- A. 0**
- B. 9
- C. 1
- D. 10

1063. A self-contained block of statements that perform a coherent task of some kind is called a?

- A. Monitor
- B. Function**
- C. Program
- D. Structure

1064. Which of the following statements are true ?

I Shortest remaining time first scheduling may cause starvation

II Preemptive scheduling may cause starvation

II Round robin is better than FCFS in terms of response time

ANS:All the three

1065.When mode of adder subtract or is 0 it will give

- A. A-B
- B. A+B**
- C. A/B
- D. A*B

1066.Decimal digits are displayed on

1067.Recursion is sometimes called ?

- (A) **Circular definition**
- (B) Complex definition
- (C) Procedure
- (D) Union

1068.A system uses FIFO policy for page replacement. It has 4 page frames with no pages loaded to begin with . The system first accesses 100 distinct pages in some order and then accesses the same 100 pages but now in the reverse order .How many page faults will occur ?

- (A) **196**
- (B) 192
- (C) 197
- (D) 195

1069.No of NAND gate is **7400**

1070.Two dimensional arrays are also called ?

ANS:**Tables arrays and matrix arrays.**

1071.A multilevel page table is preferred in comparison to a single level page table for translating virtual address to physical address because

- (A) It reduces the memory access time to read or write a memory location.
- (B) It helps to reduce the size of page table needed to implement the virtual address space of a process.**
- (C) It is required by the translation lookaside buffer.
- (D) It helps to reduce the number of page faults in page replacement algorithms.

1072.Consider a disk system with 100 cylinders. The requests to access the cylinders occur in following sequence :

4, 34, 10, 7, 19, 73, 2, 15, 6, 20

Assuming that the head is currently at cylinder 50, what is the time taken to satisfy all requests if it takes 1 ms to move from one cylinder to adjacent one and

shortest seek time first policy is used ?

- (A) 95ms
- (B) 119ms**
- (C) 233ms
- (D) 276ms

1073.

The expression X=4+2%-8 evaluates ?

ANS:6

1074.Logic probe is used for

A logic probe is a hand-held test probe used for analyzing and troubleshooting the logical states (Boolean 0 or 1) of a digital circuit.

1075.Determine which of the following is valid character constant ?

- (A) '\\"**
- B) '\0'
- (C) 'xyz'
- (D) '\052'

1076.Which of the following is NOT true of deadlock prevention and deadlock avoidance schemes?

- A)In deadlock prevention, the request for resources is always granted if the resulting state is safe**
- B)In deadlock avoidance, the request for resources is always granted if the resulting state is safe
- C)Deadlock avoidance is less restrictive than deadlock prevention
- D)Deadlock avoidance requires knowledge of resource requirements *apriori*..

1077.Master slave flipflop can be constructed with

- The master—slave flip-flop is constructed with two latches. The master latch is loaded with the condition of the J-K inputs while the clock is high. When the clock goes low, the slave takes on the state of the master and the master is latched.**

1078.Given the statement , maruti.engine.bolts=25 . Which of the following is true?

- 1. structure bolts is nested within structure engine**
- 2. structure engine is nested within structure maruti**
3. structure maruti is nested within structure engine
4. structure maruti is nested within structure bolts

1079.Consider the following statements about user level threads and kernel level threads. Which one of the following statements is FALSE?

- (A) Context switch time is longer for kernel level threads than for user level threads.
- (B) User level threads do not need any hardware support.
- (C) Related kernel level threads can be scheduled on different processors in a multi-processor system.
- (D) Blocking one kernel level thread blocks all related threads.**

1080.9 in binary code is represented by

ANS:1001

1081.Where does the swap space reside ?

- (a) RAM
- (b) **Disk**
- (c) ROM
- (d) On-chip cache

1082.To access a structure element using a pointer, operator is used?

ANS:**Arrow Operator.**

1083.Serial adder can be converted to serial adder subtract or using

1084.The operator is a technique to forcefully convert one data type to the other ?

(A) **Cast**

(B) Conversion

(C) Type

(D) Unary

1085.Each gate has a delay of

A. 1

B. 2

C. 3

D. 4

1086.If a host broadcasts a frame that includes a source and destination hardware address, and its purpose is to assign IP addresses to itself, which protocol at the Network layer does the host use?

A.**RARP**

B. ARPA

C.ICMP

D.TCP

E. IPX

1087.Consider a set of n tasks with known runtimes , r1 r2..... rn to be run on a uniprocessor machine. Which of the following processor scheduling algorithms will result in the maximum throughput ?

A. Round Robin

B. Shortest job first

C. Highest response ratio next

D. first come first served

1088.Which of the following numerical value is invalid constant ?

A. 0.7

B. 9.3el2

C. **27,512**

D. 12345678

E. None of the above

1089.

To load data to shift register its SH/LD pin should be

A. 1

B. 0

C. reset

D. undefined

1090.int a[10] will occupy _____ number of bits in the memory

Solution:Int-4bytes

A[10]= $10 \times 4 = 40$ bytes.

1 byte=8 bits.

ANS:320bits

1091.Which one of the following protocols is NOT used to resolve one form of address to another one?

(A) DNS

(B) ARP

(C) **DHCP**

(D) RARP

1092.When mode of adder subtractor is 1 it

A. adds

B. subtracts

C. divides

D. multiplies

1093.Cache memory works on the principle of_____.

ANS:Locality Of Reference.

1094.

A two-dimensional array array[1:3, 1:3] contains _____ elements.

1095.

Which of the following statements is false ?

1096.Left most position in lamp handball game is the

A. wall

B. fence

C. ball

D. indicator

1097.Which of the following is/are example(s) of stateful application layer protocols?

(i) HTTP

(ii) FTP

(iii) TCP

(iv) **POP3**

1098.

A multi-dimensional array array[0:2, 10:20, 3:4, -10:2] contains _____ elements.

1099.

Which are the correct array initialization statements?

1100.

Von Neumann architecture is _____.

- A. SISD
- B. SIMD
- C. MIMD
- D. MISD

You have 10 users plugged into a hub running 10Mbps half-duplex. There is a server connected to the switch running 10Mbps half-duplex as well. How much bandwidth does each host have to the server? **ANS: 10mbps**

1102.

Which of the following statements are wrong statements?

1103.

16x4 RAM indicates that memory location are **ANS: 4 bits**

1104.

What is the default subnet mask for a class C network? **ANS: 255.255.255.0**

1105.

When you ping the loopback address, a packet is sent where?

ANS: down through the layers of IP architecture and then up the layers again

1106.

Which is not an application of array? **ANS:**

1107.

In a vectored interrupt. **ANS: the interrupting source supplies the branch info to the processor through an interrupt vector.**

1108.

When mode of adder subtractor is 0 it gives **ANS: A+B**

1109.

Which among the following pairs of operations is supported by an array ADT? **ANS: copy and delete**

1110.

Which one of the following is a Class C IP address? **ANS: 204.67.118.54**

1111.

In a memory-mapped I/O system, which of the following will not be there?

ANS: LDA/loading into accumulator)

1112.

You have an IP of 156.233.42.56 with a subnet mask of 7 bits. How many hosts and subnets are possible assuming that subnet 0 is not used? **ANS: 128 subnets and 512 hosts**

1113.

The number of elements in array Array[1:u] is given by **ANS:**

LED stands for **ANS: light emitting diode**

1115.

The number of elements in array Array[l1:u1, l2:u2] is given by **ANS:**

1116.

What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255.255.255.224 subnet mask?**ANS:30**

1117.

The number of elements in array Array[l1:u1, l2:u2, l3:u3] is given by **ANS:**

If an Ethernet port on a router were assigned an IP address of 172.16.112.1/25, what would be the valid subnet address of this host? **ANS: 172.16.112.0**

1119.

If memory access takes 20 ns with cache and 110 ns without it, then the ratio (cache uses a 10 ns memory) is **ANS: 90%**

1120.

Identify the correct sequence in which the following packets are transmitted on the network by a host when a browser requests a webpage from a remote server, assuming that the host has just been restarted. **ANS: DNS query, TCP SYN, HTTP GET request**

1121.

4bit parallel adder produces output of **ANS: 40ns with a delay of 10ns**

For the array A[1:u1, 1:u2] where α is the base address, $A[i,1]$ has its address given by **ANS:**

1123.

____is a step-by-step procedure for calculation

1124.

What is split horizon? **ANS: Split horizon is a method of preventing a routing loop in a network. The basic principle is simple: Information about the routing for a particular packet is never sent back in the direction from which it was received.**

1125 8 input mux will have **3 select lines**

The addressing mode used in an instruction of the form ADD X Y, is **ANS:index**

1127.

What is route poisoning? **ANS: Route poisoning is a method of preventing a network from sending packets through a route that has become invalid.**

1128.

A mathematical-model with a collection of operations defined on that model is called **ANS: ADT(Abstract data type)**

1129.

_____ register keeps track of the instructions stored in program stored in memory **ANS: PC(program counter)**

In Congestion Control, DVL stands for **ANS: delay vs load**

1131.

Representation of data structure in memory is known as: **ANS: ADT**

1132.

At start of addition carry flag is **ANS: CLEARED**

1133.

Which of the following is considered an Abstract Data Type? **ANS: vector**

In Congestion, CBR stands for **ANS: constant bit rate**

1135.

2x1 mux has **ANS: 1 select line,2 inputs,1output**

1136.

An algorithm must be generic enough to solve all problems of a particular class. This property is termed as ____
ANS:

1137.

In Congestion Control, a bit can be set in a packet moving in direction opposite to congestion in **ANS: backward signaling.**

A packet which is sent by a node to source to inform it of congestion is called **ANS: choke packet**

1139.

(2FAOC)16 is equivalent to **ANS: (00101111010 0000 1100)2**

1140.

The first step of development of an algorithm is **ANS: Obtain a description of the problem.**

1141.

Adder subtractor operating on mode 1 at (X xor 1) gives **ANS: x'**

Token bucket allows bursty traffic to be regulated at **ANS: maximum rate**

1143.

Input instance for which algorithm take minimum possible time is called **ANS: best case time complexity**

1144.

In adder subtractor circuit when addition exceeds from 15 output carry becomes **ANS: 1**

1145.

Input instance for which algorithm take maximum possible time is called **ANS: worst case time complexity**

In Congestion Control, packet is put at end of input queue while waiting to be **ANS: checked**

1147.

Assembly language _____.**ANS:**

1148.

Packets wait in a buffer (queue) until node is ready to process them in **ANS:FIFO**

1149.

Which case analysis appropriate when the response time of the algorithm is critical?

ANS: worst case analysis

RS flipflop works on **ANS: NAND and NOR gates**

1151.

A leaky bucket algorithm shapes bursty traffic into fixed-rate traffic by averaging the **ANS: data rate**

1152.

The time complexity of the algorithm in a best case would be expressed as **ANS: theta**

1153.

The TTL field has value 10. How many routers (max) can process this datagram?

ANS: 10

The condition Top= -1 indicates that **stack is empty**

1155.

Serial addition can be done with [ANS: shift register](#)

1156.

Suppose that a bus has 16 data lines and requires 4 cycles of 250 nsecs each to transfer data. The bandwidth of this bus would be 2 Megabytes/sec. If the cycle time of the bus was reduced to 125 nsecs and the number of cycles required for transfer stayed the same what would the bandwidth of the bus? [ANS: 2megabyte/sec](#)

1157.

Which field helps to check rearrangement of the fragments? [ANS: offset](#)

Which of the following name related to stacks? [ANS: LIFO list, piles, pushdown lists](#)

[Not related-FIFO lists](#)

1159.

A method to provide secure transmission of email is called [ANS:PGP\(pretty good privacy\)](#)

1160.

In Reverse Polish notation, expression A*B+C*D is written as [ANS: AB* CD* +](#)

1161.

Example of primitive recursion is [ANS: Ackermann function](#)

X+y=z represents operation that is [ANS: Ternary relation](#)

1163.

Stack works on the principles: [ANS: last in first out \(LIFO\) or first in last out\(FILO\)](#)

1164.

Which of the following field of the TCP header tells how many bytes may be sent starting at the byte acknowledged? [ANS: window size](#)

1165.

To put the microprocessor in the wait state [ANS: lower the READY input](#)

The term MAX and MIN is related to the [ANS:](#)

1167.

If the data unit is 111111 and the divisor is 1010. In CRC method, what is the dividend at the transmission before division? [ANS: 111111000](#)

1168.

Which of the following is the condition of circular queue overflow? [ANS: rear>=size-1 and front=0](#)

1169.

Electric digital systems use signals that have 2 distinct values and circuit elements having 2 stable states

As the data packet moves from the upper to the lower layers, headers are [ANS: added](#)

1171.

Number of machine cycles required for RET instruction in 8085 microprocessor is [ANS: 3](#)

1172.

A data structure where elements can be added or removed at either end but not in the middle [ANS: dequeuer \(double ended queue\)](#)

1173.

What is the first address of a block of classless addresses if one of the addresses is 12.2.2.76/27? [ANS:12.2.2.64](#)

In which notation operator comes between operand? [ANS: INFIX](#)

1175.

A packet whose destination is outside the local TCP/IP network segment is sent to [ANS: default gateway](#)

1176.

Transference of information from one register to another is [ANS: register transfer](#)

1177.

An instruction used to set the carry flag in a computer can be classified as [ANS:logical](#)

In which notation operator is comes after operand? [ANS: POSTFIX](#)

1179.

In link state routing algorithm after the construction of link state packets, new routes are computed using: [ANS: Dijkstra's algorithm](#)

1180.

Distance vector routing algorithm is a dynamic routing algorithm. The routing tables in distance vector routing algorithm are updated..... [ANS: exchange info with neighbours nodes](#)

1181.

Microprocessor 8085 is the enhanced version of with essentially the same construction set [ANS:8080](#)

In which notation operator is comes before operand? [ANS: PREFIX](#)

1183.

In IPv4 header, an HLEN value of decimal 10 means [ANS:there are 40 bytes in the header](#)

1184.

Which of the following is not a application of Stack? ANS:

1185.

In a microprocessor system, the RST instruction will cause an interrupt ANS:

Only if interrupts are enabled by EI instruction

Queue works on the principles: ANS: FIFO(first in first out)

1187.

Subtraction of two signed numbers is performed with

ANS: 2's complement

1188.

In a packet switching network, if the message size is 48 bytes and each packet contains a header of 3 bytes. If 24 packets are required to transmit the message, the packet size is ANS: 5 bytes

1189.

Decimal number 5 in 2421 coding ANS: 1011

A technique called _____ is used to create a subnetting effect ANS: proxy ARP

1191.

Which of the following is related to Queue? ANS:

1192.

Which of the following is not a weighted code? ANS: excess 3-cod

1193.

The infix expression for the postfix expression : **5,6,2+*12,4/- ANS: 37**

In _____ forwarding, the destination address is a network address in the routing table ANS: network specific

1195.

Representation of 8620 in binary is ANS: 10000110101100

1196.

Answer of following postfix expression: 2,3,10+*8,2/-

1197.

The Open Shortest Path First (OSPF) protocol is an intradomain routing protocol based on _____ routing.

ANS: link state

UDP packets are encapsulated in _____ **ANS: IP datagram**

1199.

The average time required to reach a storage location in memory and obtain its contents is called the _____ **ANS:**

access time

1200.

The postfix expression for the infix expression : $a+b*c/d$ **ANS:** postfix:dc/b*a+

1201.

To avoid the race condition, the number of processes that

may be simultaneously inside their critical section is **ANS: 1**

The prefix expression for the infix expression : $a+b*c/d$ **ANS:** prefix:+a*b/cd

1203.

-9 with signed 2's complement representation is **ANS: 1111110111**

1204.

Which of the following is not a type of Dequeue? **ANS:**

1205.

The circuit used to store one bit of data is known as **ANS: flip flop**

A system program that combines the separately compiled modules of a program into a form suitable for execution **ANS: linking loader**

1207.

Which data structure will you use to evaluate prefix notation? **ANS: stack**

1208.

The strategy of allowing processes that are logically runnable to be temporarily suspended is called **preemptive scheduling**

1209.

Decimal number 4 in excess-3 coding is **0111**

Which of the following is not the operation on stack?

OPERATIONS: push, pop,isempty, isfull, peek, size

1211.

Computers use addressing mode techniques for

A.giving programming versatility to the user by providing facilities as pointers to memory counters for loop control

B. to reduce no. of bits in the field of instruction

C. specifying rules for modifying or interpreting address field of the instruction

D. All the above

1212.

Which of the following systems software does the job of merging the records from two files into one? **Utility program**

1213.

A node carries information regarding **data and link**

Digital no system is said to be of base or radix **of 10**

1215.

Fork is **System call fork()** is used to create processes. It takes no arguments and returns a process ID. The purpose of **fork()** is to create a *new* process, which becomes the *child* process of the caller. After a new child process is created, *both* processes will execute the next instruction following the *fork()* system call. Therefore, we have to distinguish the parent from the child. This can be done by testing the returned value of **fork()**.

1216.

Thrashing is a process that is busy swapping pages in and out. Requires more memory than it wants.

1217.

A linked list is which type of data structure. **Linear and dynamic**

Characters that can be specified in 6-bit code are **ASCII or Burroughs BCL**

1219.

What characteristic of RAM memory makes it not suitable for permanent storage? **It is volatile**

1220.

Supervisor state is **called a privileged state, because the user has no access to it. There are some instructions that are illegal in the user mode and are meant to be used only in the supervisor mode.**

1221.

Type of storage is used to represent Lists **ANS:**

Linear order linked list is provided through **pointer**

1223.

Voltage operated circuits represent **ANS: Binary Variables**

1224.

Interprocess communication **Inter process communication (IPC)** is a mechanism which allows processes to communicate each other and synchronize their actions. Processes can communicate with each other using these two ways:

1. Shared Memory

2. Message passing

ANS: allows processes to synchronize activity

1225.

Which of the following addressing modes, facilitates access to an operand whose location is defined relative to the beginning of the data structure in which it appears? **index**

In a Single Link List _____ node contains no links. **Pointer node**

1227.

The amount of time required to read a block of data from a disk into memory is composed of seek time, rotational latency, and transfer time. Rotational latency refers to **the time its takes for the platter to make a full rotation**

1228.

X=1010100 and Y=1000011 using 2's complement X-Y is **10001**

1229.

In Single Linked List a node contain minimum how many fields(assuming one for data). **ANS:2 fields,1 for data and the other for pointer**

A system program that sets up an executable program in main memory ready for execution is **loader**

1231.

Single link list performs which of the following methods 1) Insertion 2) Modification 3) Searching **ANS: insertion**

1232.

If an odd parity is adopted, parity bit is chosen in such that total no of 1's is **odd**

1233.

Which of the following are loaded into main memory when the computer is booted? **internal command instructions**

1234.

In linked lists there are no NULL links in: **circular linked lists**

1235.

The FIFO algorithm: **first executes the job that came in first in the queue**

1236.

Translation from symbolic program into Binary is done in **2 passes**

1237.

The list with no node is called as **empty list**

$842 + 537 = \textbf{0001 0011 0111 0101}$

1239.

What is the name given to the organized collection of software that controls the overall operation of a computer?

Operating system

1240.

Resolution of externally defined symbols is performed by **linker**

1241.

$(1010.011)_2 = \textbf{111110010.00000010110}$

MAX heap can be used to sort the data in an **ascending sorting**

1243.

System generation: **varies in difficulty with systems**

1244.

-9 with signed magnitude representation is **ANS:**

1245.

Which of the following is the application of the singly linked list?

- a) To implement file systems
- b) For separate chaining in hash-tables
- c) To implement non-binary trees
- d) All of the mentioned**

8723 in BCD **1000_0111_0010_0011**

1247.

Which of the following will contain more memory space? **ANS:**

1248.

In virtual memory systems, Dynamic address translation **is hardware necessary to implement paging**

1249.

In polynomial manipulation, nodes consists of three field representing **coefficient, exponent, common variable.**

Using 10's complement 3250-72532 is - **69282**

1251.

Fragmentation of the file system can be **temporarily removed by compaction**

1252.

A linked list in which last node contain the link of the first node is called **circular linked list**

1253.

Product of 1011 and 101 :**110111**

A non-relocatable program is one which **cannot be made to execute in any area of storage other than the one designated for it at the time of its coding or translation**

1255.

The memory allocation scheme subject to "external" fragmentation is **segmentation**

1256.

2's complement of 1101100 is **0010100**

1257.

A singly linked list facilitates list traversal in **single direction (forward)**

Page stealing : **is taking page frames from other working sets**

1259.

A doubly linked list facilitates list traversal in **forward and reverse directions**

1260.

Binary logic consists of binary values and **logical operations**

1261.

ASCII stands for **American Standard Code for Information Interchange.**

Linked list START=NULL is **underflow**

1263.

Memory management is: **critical for even the simplest operating systems**

1264.

In a linked list, the pointer of the last node contains **null pointer**

1265.

Which is the layer of a computer system between the hardware and the user program **operating system**

1266.

(10110001101011.11110010)2 in hexadecimal is **2C6BF2**

1267.

9's complement of 546700 is **999999-546700 = 453299**

1268.

In which linked list, nodes in form of ring? **Circular linked list**

1269.

Which is the first program run on a computer when the computer boots up?

Operating system

Balancing symbol is an application of **stack**

1271.

Multiprogramming systems: **execute more jobs in same time period**

1272.

Binary code that distinguishes ten elements must contain at least **4bits**

1273.

Which of the following pair of data structures are both non-linear type? **Tree and graph**

The operating system creates _____ from the physical computer **virtual computers**

1275.

9's complement of 012395 is **987601**

1276.

How is the capacity of running several program simultaneously known ? **ANS:**

1277.

Gray code representation of 14 is **1001**

1278. To represent hierarchical relationship between elements, which data structure is suitable? **TREE**

1279.

Which component performs the main or key tasks of operating system ? **ANS:**

1280.

A binary tree whose every node has either zero or two children is called **extended binary tree**

1281.

10's complement of 246700 is **753300**

1282.

The depth of a complete binary tree is given by **$D_n = \log_2 n + 1$**

1283.

10's complement of 012398 is **987601**

1284.

What kind of system is it that several users can use simultaneously? **Diamond touch**

1285.

Which of the following page replacement algorithm use the technique of replace that page which is not used in the near future? **Optimal**

X=1010100 and Y=1000011 using 1's complement Y-X is **-0010001**

1287.

The post order traversal of a binary tree is DEBFCA. Find out the in order traversal **BDEACF**

1288.

The preorder traversal of a binary tree is ABDEF. Find out the post order traversal **DEBFCA**

1289.

The set of pages that a process is currently using is called as **working set**

(41)10 in binary is **101001**

1291.

Convert (0.6875)10 to binary **0.1011(2)**

1292.

The in order traversal of a binary tree is ABFCD. Find out the pre order traversal **FABCD**

1293.

Which of the following memory management scheme loads all pages of a program from disk into main memory?

1294. Addition of -6 and -13

1295.

The process of storing and restoring from PCB is called **context switch**

1296.

Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. How many leaves does it have? **ANS:**

1297.

$e^*x=x^*e=x$ is the **ANS:**

Star topology is used in for **LAN(homes, offices)**

1299.

Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. How many of the nodes have at least one sibling? **ANS:**

1300.

Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. What is the value stored in the parent node of the node containing 30? **ANS:**

1301.

Minterms are also called **standard product**

MaxTerms are also known as **standard sum**

A remote batch-processing operation in which data is solely input to a central computer would require a:
simplex lines

1303.

ICMP (Internet Control Message Protocol) is [a protocol that handles error and control messages](#)

1304.

Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. How many descendants does the root have? **ANS:**

1305.

Maxterms are also called **standard sums(sop)**

Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. How many children does the root have? **ANS:**

1307.

$x+xy=x$ is known as **redundancy law**

1308.

If you get both local and remote echoes, every character you type will appear on the screen **twice**

1309.

What part of 192.168.10.51 is the Network ID, assuming a default subnet mask? **192.68.10**

Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. What is the depth of the tree? **ANS:**

1311.

Most preceded operator is **ANS:**

1312.

A. $(a+b+c)'= \text{ANS: } a'b'c'$

1313.

The slowest transmission speeds are those of **twisted pair wire**

Which of the following statement is false?

1315.

$x+x'y= \text{x+y}$

1316.

A noiseless 3 KHz Channel transmits bits with binary level signals. What is the maximum data rate? **6kbps**

1317.

A full binary tree with n leaves contains **2n-1** nodes

1318.

Carrier is **ANS: a continuous frequency capable of being modulated or impressed with a second signal**

1319.

A full binary tree with n non-leaf nodes contains **2n+1 nodes**

1320.

Primed or unprimed variable is **ANS: variable in boolean expression**

1321.

A binary variable can take values **of 0 and 1**

A complete binary tree of level 5 has how many nodes? **63**

1323.

What can greatly reduce TCP/IP configuration problems? **DHCP Server**

1324.

Traversing binary tree first root and then left and right subtrees called **preorder** traversal.

1325.

According to Boolean algebra x.x is equal to **x(idempotent law)**

In CRC there is no error if the remainder at the receiver is **0**

1327.

One that is not postulate of Boolean algebra

Postulates: identity, commutative, complement, distributive, associative

1328.

The maximum number of nodes on level i of a binary tree is **2^{I-1}**

1329.

Which of the following statements is correct **for the use of packet switching?**

A. the subdivision of information into individually addressed packets in conjunction with alternative routing arrangement enabled the transmission path to be altered in the event of congestion or individual link failure.

B.'the employment of additional intelligence within the network enabled more sophisticated error control and link control procedures to be applied

C.by employing wide bandwidth circuits for the trunk networks substantial economies through extensive sharing of capacity could be achieved.

D. All of above

A binary tree is generated by inserting in order of the following integers: 50, 15, 62, 5, 20, 58, 3, 8, 37, 60, 24 the number of nodes in the left of the root respectively is

(7,4)

1331.

FTP server listens to connections on port **21**

1332.

2^3 would have **ANS: 8 states**

1333.

An identity element w.r.t addition **0**

Which of the following traversal techniques lists the nodes of a binary search tree in ascending order? **inorder**

1335.

A front-end processor is

a minicomputer that relieves main-frame computers at a computer centre of communications control functions

1336.

Consider the following tree with 9 nodes. Root = 14, Children(14) = 2,11, Children(2) = 1,3, Children(11) = 10,30, Children(3) = 7, Children(10) = 40. Which pair of nodes have equal number of descendants? **ANS:**

1337.

Exclusive-OR is an **exclusive disjunction**

In **Tunnel** mode, the authentication header is inserted immediately after the IP header.

1339.

What kind of list is best to answer questions such as "What is the item at position n?" **Singly linked list**

1340.

What is the port number for NNTP? **119**

1341.

As per Boolean algebra theorem $(x')'$ is equal to **x**

Eight stations are competing for the use of a shared channel using the 'Adaptive tree Walk Protocol'. If the stations 7 and 8 are suddenly become ready at once, how many bit slots are needed to resolve the contention? **7 slots**

1343.

Which of the following is not the operation on Queue?

Operations: enqueue, dequeue, initialize

1344.

One that shows distributive law of addition over multiplication

a+(bc)=(a+b)(a+c)

1345.

Demorgan law over addition is **(a+b)'= a'.b'**

1346.

In C programming, when we remove an item from bottom of the stack, then – **stack will rearrange items**

1347.

Usually, it takes 10-bits to represent one character. How many characters can be transmitted at a speed of 1200 BPS? **120**

1348.

(x')' is x

1349.

To connect a computer with a device in the same room, you might be likely to use **coaxial cable**

Re-balancing of AVL tree costs **ANS: O(log n)**

1351.

An adaptive sorting algorithm – **ANS: uses the existing inputs insertion sort, adaptive heap sort, adaptive merge sort, patience sort, shell sort.**

1352.

How many bits internet address is assigned to each host on a TCP/IP internet which is used in all communications with the host? **32 bits**

1353.

Any number with an exponent of zero is equal to: **1**

A full subtractor circuit requires **ANS: 3 inputs 2 outputs**

1355.

Which of the following sorting method is unstable? **Quick sort**

1356.

A network with Bandwidth of 10 Mbps can pass only an average of 12000 frames per minute with each frame carrying an average of 10000 bits. What is the throughput of this network **2mbps**

1357.

The number of swapping needed to sort the numbers 8, 22, 7, 9, 31, 19, 5, 13 in ascending order, using insertion sort is **10**

Layer-2 Switch is also called **MAC address table or CAM table**

1359.

Give the decimal value of binary 10010. **18**

1360.

Which dynamic routing protocol uses cost as its metric? **OSPF**

1361.

A decoder converts **coded info into non -coded form.**

What is the worst-case time for serial search finding a single item in an array? **Linear time o(n)s**

1363.

A demultiplexer has **one data input and a number of selection inputs, and they have several outputs**

1364.

Which of the following is not the required condition for binary search algorithm? **There must be mechanism to delete and/or insert elements in list**

1365.

What is the purpose of domain name system (DNS)? **To translate domain names into IP addresses**

Which of the following is not a limitation of binary search algorithm?

Binary search algorithm is not efficient.

1367.

How many subnets are created from a Class C addressing space that is using a /29 subnet mask? **8**

1368.

In positive logic, _____. **a HIGH = 1, a LOW = 0**

1369.

Convert the fractional binary number 0000.1010 to decimal. **0.625**

What information does EIGRP share with neighboring routers? **Only successors**

1371.

Binary search algorithm cannot be applied to **pointer array**

1372.

Convert the fractional decimal number 6.75 to binary. **0110.1100**

1373.

Which of the following case does not exist in complexity theory ? **Null Case**

You have been assigned a network ID of 172.16.0.0/26. If you utilize the first network resulting from this ID, what would be the last legitimate host address in this subnet? **172.16.0.00111111**

1375.

The Worst case occur in linear search algorithm when **Item is the last element in the array or is not there at all**

1376.

Which IPv6 address is the equivalent of the IPv4 interface loopback address 127.0.0.1? **ANS: ::1**

1377.

Give the decimal value of binary 10000110. **134₁₀**

An encoder converts **non coded info to coded form**

1379.

The average case occur in linear search algorithm **When Item is somewhere in the middle of the array**

1380.

Where does routing occur within the DoD TCP/IP reference model? **Internet**

1381.

The complexity of the average case of an algorithm is **Much more complicated to analyze than that of worst case**

What kind of logic device or circuit is used to store information? **Register**

1383.

Anshe's IP address is 192.168.1.21 and uses mask of 255.255.255.240. Jenny's IP is **192.168.1.14/28**. Their computers are connected together using a crossover Ethernet cable. Why can't they ping each other?

1384.

Convert the fractional binary number 0001.0010 to decimal. **1.125**

1385.

The time complexity of linear search algorithm over an array of n element is O(n)

Determine the output frequency for a frequency division circuit that contains 12 flip-flops with an input clock frequency of 20.48 MHz. **5 kHz**

1387.

Prim's algorithm follows _____ search

1388.

Which statement BEST describes the operation of a negative-edge-triggered D flip-flop? **The logic level at the D input is transferred to Q on NGT of CLK**

1389.

Kruskal algorithm follows _____ **greedy** approach.

How is a J-K flip-flop made to toggle? **J = 1, K = 1**

1391.

In order traversal of binary search tree will produce sorted key values in an ascending order.

1392.

contains the word to be stored in memory or just received from memory

1393.

What data structure can be used to check if a syntax has balanced parenthesis ? **Stack**

A linked-list is a **linear data structurre**

1395.

CPU or Program counter contains the 8-bit opcode currently being executed.

1396.

The size of the Multiplier Quotient in IAS machine is **40bits**

1397.

Minimum number of spanning tree in a connected graph is

Read the instruction from its memory location into the processor **CPU**

1399.

Which of the following has search efficiency of O(1) **hash table**

1400.

What will be the running-time of Dijkstra's single source shortest path algorithm, if the graph G(V,E) is stored in form of adjacency list and binary heap is used **O(|E| + |V| log |V|)**

1401.

Convert binary 11111110010 to hexadecimal. **FF216**

One hex digit is sometimes referred to as a(n): **nibble**

1403.

If the array is already sorted, which of these algorithms will exhibit the best performance

a. Merge Sort

b. **Insertion Sort**

c. Quick Sort

d. Heap Sort

1404.

Assign the proper odd parity bit to the code 111001. **1111001**

1405.

Which of the following algorithm cannot be designed without recursion –

A.

Tower of Hanoi

b.

Fibonacci Series

c.

Tree Traversal

d.

None of the above

Shell sort uses

1407.

The sum of 11101 + 10111 equals 110100.

1408.

A binary number's value changes most drastically when the MSB is changed.

1409.

A posterior analysis are more accurate than a priori analysis because **it contains prior data**

The memory address of the first element of an array is called **base address**

1411.

Which is not a word size?

1412.

The memory address of fifth element of an array can be calculated by the formula

- **LOC(Array[5]=Base(Array)+w(5-lower bound), where w is the number of words per memory cell for the array)**
- LOC(Array[5])=Base(Array[5])+(5-lower bound), where w is the number of words per memory cell for the array
- LOC(Array[5])=Base(Array[4])+(5-Upper bound), where w is the number of words per memory cell for the array
- None of above

1413.

What is the difference between binary coding and binary-coded decimal?

Binary coding is pure binary.

Which of the following data structures are indexed structures? **Linear arrays**

1415.

The interrupt-request line is a part of the **control line**

1416.

Which of the following is not the required condition for binary search algorithm?

There must be a mechanism to delete or insert elements in the list.

1417.

Interrupts form an important part of **real time processing** systems

Which of the following is not a limitation of binary search algorithm?

binary search algorithm is not efficient when the data elements are more than 1000

1419.

An interrupt that can be temporarily ignored is **maskable interrupt**

1420.

_____ method is used to establish priority by serially connecting all devices that request an interrupt.

Daisy chaining

1421.

Two dimensional arrays are also called **table arrays and matrix arrays**

A variable P is called pointer if **p contains the address of an element**

1423.

Consider the following sequence of micro-operations.

MBR \leftarrow PC

MAR \leftarrow X

PC \leftarrow Y

Memory \leftarrow MBR

Which one of the following is a possible operation performed by this sequence?

Initiation of interrupt service

1424.

Which of the following data structure can't store the non-homogeneous data elements? **arrays**

1425.

A RAM chip has a capacity of 1024 words of 8 bits each ($1K \times 8$). The number of 2×4 decoders with enable line needed to construct a $16K \times 16$ RAM from $1K \times 8$ RAM is **4 decoders are required**

Register renaming is done in pipelined processors **to handle certain kinds of hazards.**

1427.

Which of the following data structure store the NON homogeneous data elements?

1428.

Each data item in a record may be a group item composed of sub-items; those items which are indecomposable are called

(a. elementary items b. atoms c. scalars)

1429.

Consider a hypothetical processor with an instruction of type LW R1, 20(R2), which during execution reads a 32-bit word from memory and stores it in a 32-bit register R1. The effective address of the memory location is obtained by the addition of a constant 20 and the contents of register R2. Which of the following best reflects the addressing mode implemented by this instruction for operand in memory. **Base index addressing**

How many 32K x 1 RAM chips are needed to provide a memory capacity of 256K-bytes? **64**

1431.

The difference between linear array and a record is

-All of the above(- An array is suitable for homogeneous data but the data items in a record may have different data type

- In a record, there may not be a natural ordering in opposed to linear array)

1432.

A 4-way set-associative cache memory unit with a capacity of 16 KB is built using a block size of 8 words. The word length is 32 bits. The size of the physical address space is 4 GB. The number of bits for the TAG field is
— 2^20 blocks, so 20 bits.

1433.

Who is considered as the creator of JAVA ? **james gosling**

Where does the swap space reside? **disk**

1435.

Java source codes are compiled and converted to **bytecode**

1436.

What will be the output of the program ?

class A

{

int x = 10;

public void assign(int x)

```

{
    x = x;
    System.out.println(this.x);
}

public static void main(String[] args)
{
    new A().assign(100);
}
}

```

10.

1437.

Which of the following DMA transfer modes and interrupt handling mechanisms will enable the highest I/O band-width?

Block transfer and vectored interrupt.

What will be the output of the following program?

```

class B
{
    static int count = 100;

    public void increment()
    {
        count++;
    }

    public static void main(String []args)
    {
        B b1 = new B();
        b1.increment();
        B b2 = new B();
    }
}

```

```
System.out.println(b2.count); // line 13  
}  
}
```

101.

1439.

Addressing mode used in instruction

add r1,r2,r3 is **register mode**

1440.

Given the following code, which line will generate an error ?

```
class Test  
{  
    static int x = 100;          // line 3  
    int y = 200;              // line 4  
    public static void main(String []args)  
    {  
        final int z;           // line 7  
        z = x + y;            // line 8  
        System.out.println(z);  
    }  
}
```

Line 8 will generate an error.

1441.

The decoded instruction is stored in **ir**

What will happen if you try to compile and run the following code ?

```
class Test  
{
```

```
int x;  
  
Test(int n)  
  
{  
  
    System.out.println(x=n); // line 6  
  
}
```

```
public static void main(String []args)  
  
{  
  
    Test n = new Test(); // line 10  
  
}  
  
}
```

LINE 10 WILL GENERATE AN ERROR.

1443.

Which register can interact with the secondary storage **MAR**

1444.

During the execution of a program which gets initialized first? **PC**

1445.

What will be the Output?

```
class Animal  
  
{  
  
    String name = "animal";  
  
    String makeNoise() { return "generic noise"; }  
  
}  
  
class Dog extends Animal  
  
{  
  
    String name = "dog";  
  
    String makeNoise() { return "bark"; }  

```

```
}
```

public class Test

```
{
```

public static void main(String[] args)

```
{
```

Animal an = new Dog();

System.out.println(an.name+" "+an.makeNoise());

```
}
```

```
}
```

ANIMAL BARK

super keyword in Java is used for?

1447.

During transfer of data between the processor and memory we use _____ **REGISTERS**

1448.

What will be the Output?

class A

```
public static void main(String []args)
```

```
a.m1();
```

```
}
```

```
}
```

COMPILATION FAILS

1449.

Physical memory is divided into sets of finite size called as _____ . **FRAMES**

The DMA controller has _____ registers **3**

1451.

Which operator is used to check object-type at runtime? **INSTANCEOF OPERATOR**

1452.

The technique where the controller is given complete access to main memory is **BURST MODE**

1453.

Multiple inheritance is not supported in Java because? Predict Output, if the below code is run with given command?

BECAUSE IT LEADS TO DIAMOND PROBLEM.

Command Line : java myprog good morning everyone

```
public class myprog
```

```
{
```

```
    public static void main(String argv[])
```

```
{
```

```
    System.out.println(argv[1])
```

```
}
```

```
}
```

1455.

The DMA transfer is initiated by _____ **I/O DEVICES**

1456.

The techniques which move the program blocks to or from the physical memory is called as _____. **VIRTUAL MEMORY ORGANISATION.**

1457.

What is the output of this program?

```
class average {  
    public static void main(String args[])  
    {  
        double num[] = {5.5, 10.1, 11, 12.8, 56.9, 2.5};  
        double result;  
        result = 0;  
        for (int i = 0; i < 6; ++i)  
            result = result + num[i];  
        System.out.print(result/6);  
  
    }  
}
```

16.4666666666666667

The binary address issued to data or instructions are called as ____ **LOGICAL ADDRESS** ____.

1460.

What is the output of this program?

```
class increment {  
    public static void main(String args[])  
    {  
        int g = 3;  
        System.out.print(++g * 8);  
    }  
}
```

}

32

1461.

The virtual memory basically stores the next segment of data to be executed on the **SECONDARY STORAGE** _____.

What is the output of this program?

```
class array_output {  
    public static void main(String args[]) {  
        int array_variable [] = new int[10];  
        for (int i = 0; i < 10; ++i) {  
            array_variable[i] = i;  
            System.out.print(array_variable[i] + " ");  
            i++;  
        }  
    }  
}
```

0 2 4 6 8

1463.

In associative mapping during LRU, the counter of the new block is set to '0' and all the others are incremented by one, when _____ occurs. **MISS**

1464.

Fill in the blank to compile the code successfully?

public abstract void showA();

abstract class A

{

```
int a = 100;  
}  
  
public class B extends A  
{  
    ----- // Fill the blank
```

```
public static void main(String []args)  
{  
    A objA = new B();  
    objA.showA();  
}
```

1465.

The two phases of executing an instruction are, **Instruction fetch and instruction execution**

The Instruction fetch phase ends with, **Decoding the data in MDR and placing it in IR**

1467.

Which of the following statement is true about an Interface? **Interface cannot implement a class.**

1468.

When using Branching, the usual sequencing of the PC is altered. A new instruction is loaded which is called as

—
BRANCH TARGET_____

1469.

Which of following is a valid class using the given code?

public interface A { public void showA(); }

1470 Given the following declarations, which assignment is legal?

// Class declarations :

interface A {}

class B {}

class C extends B implements A {}

class D implements A {}

// Declaration statements :

A a = d;

B b = new B();

C c = new C();

D d = new D();

1471.

The condition flag Z is set to 1 to indicate, **result is zero.**

1472.

Which is a valid declaration within an Interface?

public static short stop = 23;(If this option exists)

1473.

Which of the statement is false about an abstract class?

An abstract class cannot have normal method.(If this option exists)

You can import only static members of a class present in some other package using **-import static keyword (If this option exists)**

1475.

import keyword is used to?

It declares a Java class to use in the code below the import statement.

1476.

What is the stored in the object obj in following lines of code? **NULL**

box obj;

1477.

When we create String with new() Operator, where is it stored? Which two methods you need to implement to use an Object as key in HashMap?

-If you use new operator for creating strings in Java, it creates an object only in the heap memory

1479.

Which keyword is used by method to refer to the object that invoked it?

this

1480.

Which of the following is a method having same name as that of its class? **constructor**

1481.

Which function is used to perform some action when the object is to be destroyed? **finalize**

Which of these is used to access member of class before object of that class is created? **static**

1483.

Which of these cannot be declared static? **method**

1484.

Which of the following is not a valid declaration of a Top level class ?

Static class Test()

1485.

How can such a restriction be enforced ?

Without any accessibility specifiers.

A method within a class is only accessible by classes that are defined within the same package as the class of the method.

1486. Two methods are said to be overloaded if they have, **have same name but different parameters.**

1487.

What is the prototype of the default constructor for given class?

public class Test { }

1488.

Garbage Collection in java is done by who? **JVM**

1489.

What will be the output of the following program?

class B

{

static int count = 100;

```
public void increment()  
{  
    count++; }  
  
public static void main(String []args)  
{  
    B b1 = new B();  
  
    b1.increment();  
  
    B b2 = new B();  
  
    System.out.println(b2.count); } }
```

101

The mechanism that binds code and data together to keep them secure from outside world is known as **encapsulation**

1491.

What does the file iostream contain?

The file iostream.h consists of declaration of standard stream input and output facilities.

It also consists of procedure that predefine a set of operations for handling reading and writing of built-in data types.

1492.

Which of the following is considered as a blue print that defines the variables and methods common to all of its objects of a specific kind? **class**

1493.

Which of the following is synchronized? **Image file**

Assume that a File is an abstract class and has toFile() method. ImageFile and BinaryFile are concrete classes of the abstract class File. Also, assume that the method toFile() is implemented in both Binary File and Image File. Which implementation method will be called when a File references an ImageFile object in memory and the toFile method is called?

1495.

What is the meaning of the return data type void?

The data type void actually refers to an object that does not have a value of any type

1496.

The object of DataInputStream is used to **To covert binary stream into character stream**

1497.

The code snippet if("Welcome".trim() == "Welcome".trim()) System.out.println("Equal"); else System.out.println("Not Equal"); will

Assume that the value 3929.92 is of type 'float'. How to assign this value after declaring the variable 'interest' of type float?

interest = 3929.92f

1499.

Which of the methods should be implemented if any class implements the Runnable interface?

run()

1500.

After the following code fragment,

what is the value in fname? String str; int fname; str = "Foolish boy."; fname = str.indexOf("fool");

-1

1501.

What is the value of 'number' after the following code fragment execution?

ANS:12

```
int number = 0;  
  
int number2 = 12;  
  
while (number < number2)  
{  
    number = number + 1;  
}
```

1502.DataInputStream is an example of **filtered stream**

1503.If result = 2 + 3 * 5, what is the value and type of 'result' variable? **ANS:17,int**

1504.

What is an aggregate object? **ANS:** An aggregate object is one which contains other objects. For example, an Airplane class would contain Engine, Wing, Tail, Crew objects.

1505.

Which of the following is not a return type? **Public**

When a thread terminates its processing, into what state that thread enters?

Dead state

1507.

To execute the threads one after another **the keyword synchronized is used**

1508.

Consider the following code snippet. What will be assigned to the variable fourthChar, if the code is executed?**throws StringIndexOutOfBoundsException** String str = new String("Java"); char fourthChar = str.charAt(4);

1509.

class can have many methods with the same name as long as the number of parameters or type of parameters is different. This OOP concept is known as **Method Overloading**

Given the following code snippet; int salaries[]; int index = 0; salaries = new int[4]; while (index < 4) { salaries[index] = 10000; index++; } What is the value of salaries [3]?**10000**

1511.

Select all the true statements from the following.

1512.

Which of the following is not a method of the Thread class.

1513.

How many numeric data types are supported in Java?**six of the eight primitive data types are numeric types**

The class java.lang.Exception is **extends Throwable**

1515.

All the wrapper classes (Integer, Boolean, Float, Short, Long, Double and Character) in java **are final**

1516.

What is the difference between overloaded functions and overridden functions?

You are putting in place an overloading when you change the original types for the arguments in the signature of a method.

You are putting in place an overriding when you change the original definition of a method.

1517.

How do we define a destructor?

Destructor" functions are the inverse of constructor functions. They are called when objects are destroyed (deallocated). Designate a function as a class's destructor by preceding the class name with a tilde (~) Which classes allow primitive types to be accessed as objects? **ANS:** Wrapper

1519.

Inline functions are invoked at the time of **compile time**.

1520.

Which of the following operators allow to define the member functions of a class outside the class? **ANS:** " :: "