Sr No.	PhD CSE
1	Choose the missing term out of the given options: ___aa__ba__bb__ab__aab
Alt1	aaabb
Alt2	babab
Alt3	bbaab
Alt4	bbbaa

2	Choose word from the given options which bears the same relationship to the third word, as the first two bears: Hour : Second :: Tertiary : ?
Alt1	Intermediary
Alt2	Primary
Alt3	Ordinary
Alt4	Secondary

3	Select the lettered pair that has the same relationship as the original pair of words: Stickler :Insist
Alt1	Laggard: Outlast
Alt2	Braggart: Boast
Alt3	Haggler: Concede
Alt4	Trickster: Risk

4	Select the lettered pair that has the same relationship as the original pair of words: Necromancy : Ghosts
Alt1	Romance: Stories
Alt2	Magie: Amulets
Alt3	Alchemy: Gold
Alt4	Sorcery: Spirits

5	Find out the number that has the same relationship as the numbers of the given pair: MAD: JXA: RUN: ?
Alt1	ORK
Alt2	OSQ
Alt3	PRJ
Alt4	UXQ

6	Spot the defective segment from the following:
Alt1	Keep the miscreants
Alt2	at your arm’s length
Alt3	for
Alt4	they will pull the wool over your eyes

7	The terrorists held the tourists ---------- for ransom.
Alt1	as hostages
Alt2	hostages
Alt3	hostage

Alt4	captives

8	If I ------- wealthy, I would have got many friends.
Alt1	had been
Alt2	were
Alt3	was
Alt4	am

9	Choose the option closest in meaning to the given word: NEOLOGISM
Alt1	inoculation
Alt2	coinage
Alt3	consistency
Alt4	mirth

10	Choose the antonymous option you consider the best: SUAVE
Alt1	crestfallen
Alt2	polite
Alt3	rough
Alt4	cherished

11	In a certain code, REFRIGERATOR is coded as ROTAREGIRFER. Which wordwould be coded as NOITINUMMA ?
Alt1	ANMOMIUTNI
Alt2	AMNTOMUIIN
Alt3	AMMUNITION
Alt4	NMMUNITIOA

12	Traffic : Road in the same way as
Alt1	Aeroplane : Aerodrome
Alt2	Blood : Veins
Alt3	Roots : Tree
Alt4	Car : Garage

13	The following information is given: One of M.Gopi, his wife, their son and Mr.Gopi's mother is an architect and another is a doctor. (i) If the doctor is younger than the architect, then the doctor and the architect are not blood relatives. (ii) If the doctor is a woman, then the doctor and the architect are blood relatives. (iii) If the architect is a man, then the doctor is a man. Whose occupation is known by this information?
Alt1	Mr. Gopi is the doctor
Alt2	Mr. Gopi's son is the architect
Alt3	Mrs. Gopi is the doctor
Alt4	Mr. Gopi's mother is the doctor

14	Gopal was ranked 5th from the top and 16th from the bottom in a test. How many students were there in his class
Alt1	19
Alt2	21
Alt3	22
Alt4	20

15	Median of 10o, 5o, -2o, -1o, -5o, 15o is
Alt1	-2o
Alt2	-1o
Alt3	2o
Alt4	3o

16	Which of the following is 'OXYMORON'?
Alt1	Found Missing
Alt2	TIT-TAT
Alt3	GOTO
Alt4	Misunderstood

17	There are 5 persons in a class. Each one is shaking hand with the other. Find the total number of hand shakes?
Alt1	5
Alt2	10
Alt3	20
Alt4	60

18	Of the 26 Capital letters, how many are symmetrical along with vertical and horizontal axes.
Alt1	4
Alt2	3
Alt3	6
Alt4	5

19	There are 30 boys and 60 girls in a village . There are 70 men and 40 women in that village. What is the percentage of boys in that village?
Alt1	0.1
Alt2	0.25
Alt3	0.2
Alt4	0.15

20	There are N students in a class and only 8 of them are girls. If 11 boys added to the class,how many students in the class are boys?
Alt1	N+3
Alt2	N-3
Alt3	N-19

Alt4	19

21	In Propositional logic negation of p à q is equivalent to
Alt1	p^ ~q
Alt2	p v q
Alt3	~p v q
Alt4	p ^ q

22	An abelian group is a group in which
Alt1	Commutative Property is also satisfied
Alt2	Distributive Property is also satisfied
Alt3	Closed with respect to addition and multiplication
Alt4	It is always a ring

23	A relation R is set to be an equivalence relation if
Alt1	It is Reflexive
Alt2	It is Symmetric
Alt3	It is Transitive
Alt4	It is Reflexive, Symmetric and Transitive

24	A function is a bijection if
Alt1	It is one-one
Alt2	It is on- to
Alt3	It is one-one and on-to
Alt4	It is one-one and in-to

25	The worst case time complexity of Insertion Sort algorithm is
Alt1	O(n)
Alt2	O(n x n)
Alt3	O(log n)
Alt4	O (n log n)

26	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)?
Alt1	2
Alt2	3
Alt3	4
Alt4	6

27	A tree that uses parts of the key to navigate the search is
Alt1	B+ tree
Alt2	Binary search tree
Alt3	AVL tree
Alt4	Trie

28	What is the minimum and maximum height of a binary search tree having 20 elements? Assume that the level of the root node is 1.
Alt1	5, 19
Alt2	5, 20
Alt3	4, 19
Alt4	4, 20

29	How many linked lists are used to represent a graph with n nodes and m edges, when using an edge list representation,
Alt1	m
Alt2	n
Alt3	m + n
Alt4	m * n

30	Which of the following software testing techniques use McCabe's Cyclometic complexity?
Alt1	Statement Coverage
Alt2	Condition Coverage
Alt3	Boundary value analysis
Alt4	Basis Path Testing

31	The process model which considers Risk Analysis is
Alt1	Waterfall model
Alt2	Spiral Model
Alt3	Rapid Application Development Model
Alt4	Prototyping Model

32	The input portion in the Data Flow Diagram that transform input data from physical to logical form is called
Alt1	Central transform
Alt2	Efferent branch
Alt3	Afferent branch
Alt4	None of the above

33	If every requirement stated in the Software Requirement Specification (SRS) has only one interpretation, SRS is said to be
Alt1	Correct
Alt2	Unambiguous
Alt3	Consistent
Alt4	Verifiable

34	Coupling and cohesion can be represented using a
Alt1	Cause-effect graph
Alt2	Dependence matrix
Alt3	Structure chart
Alt4	SRS

35	Alpha and Beta Testing are forms of
Alt1	Acceptance testing
Alt2	Integration testing
Alt3	System Testing
Alt4	Unit testing

36	Which is not a size metric?
Alt1	LOC
Alt2	Function count
Alt3	Program length
Alt4	Cyclomatic complexity

37	The idea of cache memory is based
Alt1	on the property of locality of reference
Alt2	on the heuristic 90-10 rule
Alt3	on the fact that references generally tend to cluster
Alt4	all of the above

38	A microprogram sequencer
Alt1	generates the address of next micro instruction to be executed.
Alt2	generates the control signals to execute a microinstruction.
Alt3	sequentially averages all microinstructions in the control memory.
Alt4	enables the efficient handling of a micro program subroutine

39	Which of the following protocols is used in Ethernet LANS for media access control?
Alt1	Sliding Window Protocol
Alt2	Stop and Wait Protocol
Alt3	Go Back N Protocol
Alt4	CSMA/CD Protocol

40	In the TCP/IP model, flow control and error control are carried out by
Alt1	The Application Layer
Alt2	Transport Layer
Alt3	Network Layer
Alt4	Data Link Layer

41	The length of MAC address in Ethernet is
Alt1	32 bits
Alt2	48 bits
Alt3	64 bits
Alt4	128 bits

42	Which of the following protocols is used for routing in Ad-hoc networks
Alt1	AODV
Alt2	Link State Routing
Alt3	Multicast Routing
Alt4	Distance Vector Routing

43	The protocol which is used for multicast communication
Alt1	ARP
Alt2	RARP
Alt3	IGMP
Alt4	ICMP

44	Fork is
Alt1	the dispatching of a task
Alt2	the creation of a new job
Alt3	the creation of a new process
Alt4	increasing the priority of a task

45	In operating systems, the scheduling algorithm in which starvation occurs more frequently is
Alt1	First Come First Serve
Alt2	Round robin
Alt3	Shortest Job First
Alt4	Earliest Deadline First

46	External fragmentation is a problem occurring in the following memory management technique
Alt1	Cache Memory Management
Alt2	Virtual Memory Management
Alt3	Paged Memory Management
Alt4	Segmented Memory Management

47	SHA-l has a message digest of
Alt1	160 bits
Alt2	512 bits
Alt3	628 bits
Alt4	820 bits

48	The number of rounds performed by the DES algorithm is
Alt1	8
Alt2	16
Alt3	24
Alt4	32

49	Euclidean Algorithm is used to find
Alt1	The L.C.M of two numbers
Alt2	The G.C.D of two numbers
Alt3	The remainder of division
Alt4	The factors of a number

50	Euler's Phi function is used in
Alt1	DES Algorithm
Alt2	AES Algorithm
Alt3	RSA Algorithm

Alt4	DSA Algorithm

51	The sequence of events that happen during a typical fetch operation is
Alt1	PC->MAR->Memory->MDR->IR
Alt2	PC->Memory->MDR->IR
Alt3	PC->Memory->IR
Alt4	PC->MAR->Memory->IR

52	A byte addressable computer has a memory capacity of 2m Kbytes and ca perform 2n operations. An instruction involving 3 operands and one operator needs a maximum of
Alt1	3m bits
Alt2	3m+n bits
Alt3	m+n bits
Alt4	5m+0

53	A computer uses ternary system instead of the traditional binary system. An ‘n’ bit string in the binary system will occupy
Alt1	3+n ternary digits
Alt2	2n/3 ternary digits
Alt3	N(log23) ternary digits
Alt4	N(log32) ternary digits

54	Which of the following rules regarding the addition of 2 given numbers is correct, if negative numbers are represented in 2’s complement form?
Alt1	Add sign bit and discard carry, if any
Alt2	Add sign bit and add carry, if any
Alt3	Don’t add sign bit and discard carry bit, if nay
Alt4	Don’t add sign bit and add carry, if any

55	The working of a staircase switch is a typical example of the logical operation
Alt1	OR
Alt2	NOR
Alt3	Exclusive- OR
Alt4	Exclusive – NOR

56	The exponent of a floating point number is represented in excess-N code so that
Alt1	The dynamic range is larger
Alt2	The precision is high
Alt3	The smallest number is represented by all zeros
Alt4	Overflow is avoided

57	With a clock frequency of 3MHz, the execution time for instruction, “STA addr” of 8085will be
Alt1	4333ns
Alt2	3975ns
Alt3	3115ns
Alt4	3960ns

58	Which of the following lists the interrupts in decreasing priority?
Alt1	TRAP, RST 5.5, RST 6.5, RST 7.5, INTR
Alt2	INTR, TRAP, RST 7.5, RST 6.5, RST 5.5
Alt3	TRAP, RST 7.5, RST 6.5, RST 5.5, INTR
Alt4	RST 7.5, RST 6.5, RST 5.5, TRAP, INTR

59	Consider the following four instructions i. PUSH PSW ii. CALL ADDR iii. XTHL iv. RST n The stack pointer will be affected by the instruction(s)
Alt1	1 only
Alt2	1 and 2 only
Alt3	1,2 and 4 only
Alt4	1,2 and 3 only

60	MVI B, 00 MVI A, 1cH DCR B DAA STA TEMP HLT The content of the TEMP location after the execution of the above program is
Alt1	1Ch
Alt2	22h
Alt3	82h
Alt4	12h

61	The depth of a complete binary tree with n nodes is (log is to the base two)
Alt1	Log(n+1) -1
Alt2	Log(n)
Alt3	Log(n-1) +1
Alt4	Log(n) + 1

62	A hash function f defined as f(key)=Key mod 7, with linear probing, is used to insert the keys 37, 38, 72, 48, 98, 11, 56, into a table indexed from 0to 6. What will be the location of key 11?
Alt1	3
Alt2	4
Alt3	5
Alt4	6

63	The Ackermann's function
Alt1	Has quadratic time complexity
Alt2	Has exponential time complexity

Alt3	Can't be solved iteratively
Alt4	Has algorithmic time complexity

64	15. Stack A has the entries a,b,c(with a on top). Stack B is empty. An entry popped out of stack A can be printed immediately or pushed to stack B. An entry popped out of stack B can be printed. In this arrangement, which of the following permutations of a,b,c is not possible?
Alt1	b a c
Alt2	b c a
Alt3	c a b
Alt4	a b c

65	The postfix equivalent of the prefix * + a b – c d is
Alt1	ab + cd - *
Alt2	ab cd + - *
Alt3	ab + cd * -
Alt4	ab + - cd *

66	A hash table has space for 100 records. What is the probability of collision before the table is 10% full
Alt1	0.45
Alt2	0.5
Alt3	0.3
Alt4	0.34(approximately)

67	Unrestricted use of goto is harmful, because it
Alt1	Makes debugging difficult
Alt2	Increases the running time of the program
Alt3	Increases memory requirement of program
Alt4	Results in the compiler generating longer machine code

68	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
Alt1	2h -1
Alt2	2h-1 -1
Alt3	2h+1 -1
Alt4	2h+1

69	Working set(t,k) at an instant of time ,t, is the set of
Alt1	K future references that the operating system will make
Alt2	Future references that the operating system will make in the next k time units
Alt3	K references with high frequency
Alt4	Pages that have been referenced in the last k time units

70	Dijkstra's banking algorithm in an operating system solves the problem of
Alt1	Deadlock avoidance
Alt2	Deadlock recovery
Alt3	Mutual exclusion

Alt4	Context switching

71	An operating system contains 3 user processes each requiring 2 units of resource R. The minimum number of units of R such that no deadlock will ever occur is
Alt1	3
Alt2	4
Alt3	5
Alt4	6

72	Dirty bit is used to show the
Alt1	Page with corrupted data
Alt2	Wrong page in the memory
Alt3	Page that is modified after being loaded into cache memory
Alt4	Page that is less frequently accessed

73	In paged memory, the page hit ratio is 0.35. The time required to access a page in secondary memory is equal to 100ns. The time required to access a page in primary memory is 10ns. The average time required to access a page is
Alt1	3ns
Alt2	68ns
Alt3	68.5ns
Alt4	78.5ns

74	Consider a system having 'm' resources of the same type. These resources are shared by 3 processes A,B,C which have peak time demands of 3,4,6 respectively. The minimum value of 'm' that ensures that deadlock will never occur is
Alt1	11
Alt2	12
Alt3	13
Alt4	14

75	If there are 32 segments, each of size 1kbytes, then the logical address should have
Alt1	13 bits
Alt2	14 bits
Alt3	15 bits
Alt4	16 bits

76	Thrashing
Alt1	Reduces page I/O
Alt2	Decreases the degree of multiprogramming
Alt3	Implies excessive page I/O
Alt4	Improves the system performance

77	In airline reservation system, the entities are date, flight number, place of departure, destination, type of plane and seat availability. The primary key is
Alt1	Flight number
Alt2	Flight number + place of departure

Alt3	Flight number + date
Alt4	Flight number + destination

78	For a database relation R(a,b,c,d) where the domains of a,b,c, and d include only atomic values, only the following functional dependencies and those that can be inferred from then hold. a->c b->d The relation is in
Alt1	First normal form but not in the second normal form
Alt2	Second normal form but not in the third normal form
Alt3	Third normal form
Alt4	Fifth normal form

79	The employee salary should not be greater than Rs.2000. This is
Alt1	Integrity constraint
Alt2	Referential constraint
Alt3	Over-defined constraint
Alt4	Feasible constraint

80	CSG can be recognized by a
Alt1	FSM
Alt2	DPDM
Alt3	NDPDM
Alt4	Linearly bonded memory machine

81	If there exist a TM which when applied to any problem in the class, terminates if the correct answer is yes, and, may or may not terminate otherwise is said to be
Alt1	Stable
Alt2	Unsolvable
Alt3	Partially solvable
Alt4	Unstable

82	If the instructions are executed in parallel, whenever the required operands are available, then the execution time of the previous problem is logically same as that of sequentially executing
Alt1	3 statements
Alt2	2 statements
Alt3	4 statements
Alt4	5 statements

83	Word length in microprocessors is indicated by
Alt1	Number of bits that can be processed by CPU at any one time
Alt2	32 bit word length that the CPU is capable to process at any one time
Alt3	8 bits of word length that the CPU is capable to process at any one time
Alt4	64 bit word length that the CPU is capable to process at any one time

84	Bus bandwidth is indicated by

Alt1	Data bits times frequency
Alt2	Frequency of multiplexed path
Alt3	Frequency of data transfer
Alt4	Base band frequency

85	Microns in CPU represents
Alt1	Number of transistors
Alt2	Distance between transistors
Alt3	Number of circuits
Alt4	Technology of circuits

86	L1 cache memory is located in
Alt1	Motherboard
Alt2	Processor
Alt3	System Memory
Alt4	On-board memory

87	MIPS is the term to represent
Alt1	Number of instructions in memory
Alt2	Number of processors in system
Alt3	Execution speed of processor
Alt4	Number of memory in processor

88	Fault-tolerance in computing refers to
Alt1	Product of the system from hardware
Alt2	Continued operation even in failures
Alt3	Software to correct errors
Alt4	System to correct errors

89	XML supports
Alt1	Middleware for business system
Alt2	common data format for business
Alt3	Proprietary data format
Alt4	Back-end system

90	In an RDBMS when data are normalized
Alt1	Attributes in the table depend on primary key
Alt2	Attributes in the table depend on secondary key
Alt3	Attributes in the table depend on primary key and secondary key
Alt4	Attributes in the table are available in the reduced form

91	SQL is
Alt1	The combination of MOM and DOM
Alt2	The combination of DML and DDL
Alt3	The combination of UML and DDL
Alt4	The combination of UML and SDL

92	OLAP data are supported by
Alt1	Arrays
Alt2	Pointers
Alt3	Stack
Alt4	Tree

93	Baseband transmission is
Alt1	Digital and multiple signals at a time
Alt2	Digital and one signal at a time
Alt3	Analog and one signal at a time
Alt4	Analog and multiple signals at a time

94	Microwave towers cannot be spaced more than
Alt1	120 miles apart
Alt2	90 miles apart
Alt3	60 miles apart
Alt4	30 miles apart

95	The speed of OFC ranges
Alt1	560 kbps to 500 mbps
Alt2	256 kbps to 560 mbps
Alt3	500 kbps to 25 Tbps
Alt4	1 mbps to 15 mbps

96	Parity bits are used
Alt1	At the sender end to add error
Alt2	At the receiver end if bits are lost
Alt3	Both at sender and receiver end
Alt4	Both at sender and Receiver for errors

97	Forward error correction
Alt1	Requires receiver to correct data stream
Alt2	Requires sender to correct data stream
Alt3	Both sender and receiver to correct data stream
Alt4	none of the above

98	Primary rate ISDN supports
Alt1	13 B channels and 4 D channels
Alt2	23 B channels and 1 D channels
Alt3	35 B channels and 1 channels
Alt4	45 B channels and 4 D channels

99	DSL uses
Alt1	Dedicated point-to-point lines
Alt2	Satellite link channels
Alt3	OFC cable based channels
Alt4	Existing telephone lines

100	Bluetooth’s maximum transmission speed is
Alt1	420 kbps
Alt2	520 kbps
Alt3	620 kbps
Alt4	720 kbps

PU Ph D Computer Science and Engineering

1 of 100
198 PU_2015_106
Which of the following is done in the physical layer of the ATM network?

- Cell multiplexing and de-multiplexing
- Transmission frame generation/recovery
- Monitoring of the user information field for bit errors and possible corrective actions
- Generic flow control

2 of 100
219 PU_2015_106
_____ is a sentence which is true under all interpretations.

- Tautology
- Logic+
- Contradiction
- Raster

3 of 100
200 PU_2015_106
The first argument of a scanf() function in C language is:-

- Control string
- Escape sequence
- Keyword
- Address of a variable

4 of 100
216 PU_2015_106
Which among the following is not a major component of Artificial Intelligence Systems?

- Knowledge
- Looping
- Learning
- Reasoning

5 of 100
210 PU_2015_106
The Performance of the pure Aloha protocol is:-

- Less than Seven Percent
- Less than Twenty Percent
- Less than Five Percent

- Zero

6 of 100

193 PU_2015_106

The maximum number of edges in a bipartite graph on 12 vertices is _____.

- 36
- 24
- 48
- 12

7 of 100

190 PU_2015_106

Consider a system with byte-addressable memory, 32 bit logical addresses, 4 kilobyte page size and page table entries of 4 bytes each. The size of the page table in the system in megabytes is _____.

- 3
- 6
- 4
- 5

8 of 100

120 PU_2015_106

The storage class 'static' can be used to:-

- Restrict the scope of an external identifier
- Provide privacy to a set of functions
- Preserve the exit value of variables
- All of these

9 of 100

212 PU_2015_106

RAID implies:-

- Mechanism for ensuring reliability
- Independent read and writes
- Disks operated in parallel
- All of these

10 of 100

162 PU_2015_106

What is the function of the preamble in an Ethernet network?

- Error checking
- Clock synchronization

- Broadcast
- Collision avoidance

11 of 100
182 PU_2015_106
Which of the following is a Groupware server?

- Transaction server
- File server
- Database server
- Mail server

12 of 100
194 PU_2015_106
Which one of the following fields of an IP header is NOT modified by a typical IP router?

- Time To Live (TTL)
- Checksum
- Length
- Source address

13 of 100
170 PU_2015_106
Which file transfer protocol uses TCP and establishes two virtual circuits between the local and remote server?

- TELNET
- NFS
- TFTP
- FTP

14 of 100
202 PU_2015_106
Functions of Lexical analyzer are:-

- Removing white space
- Removing constants, identifiers and keywords
- Removing comments
- All of these

15 of 100
204 PU_2015_106
The idea of automation with a stack as auxiliary storage:-

- Deterministic automata

- Finite automata
- Push down automata
- Non deterministic automata

16 of 100

181 PU_2015_106

What is the protocol used by a Mail Client to connect to a Mail server?

- SIP
- IMAP4
- FTP
- H.323

17 of 100

121 PU_2015_106

Pumping lemma is generally used for proving:-

- A given grammar is regular
- A given grammar is not regular
- Whether two given regular expressions are equivalent or not
- All of these

18 of 100

130 PU_2015_106

If d is the level of the leaf nodes, the total number of nodes in a completely binary tree is given by:-

- $2^{d-1} + 1$
- $2^{d+1} - 1$
- $2^{d-1} - 1$
- $2^{d+1} + 1$

19 of 100

150 PU_2015_106

The Fan-out of nodes can be increased by using a technique called _____.

- Postfix compression
- Prefix compression
- Node compression
- Infix compression

20 of 100

209 PU_2015_106

A fault simulation testing technique is:-

- Stress testing

- White box testing
- Black box testing
- Mutation test

21 of 100

119 PU_2015_106

What is atomicity?

- All transactions must be committed
- All transactions must be rolled back
- After transaction is committed the change must persist
- All transactions are either committed or rolled back

22 of 100

188 PU_2015_106

Which of the following logic families is well suited for high speed operations?

- CMOS
- TTL
- ECL
- MOS

23 of 100

207 PU_2015_106

Which of the following techniques is a hardware technique used in high performance computer systems to exploit certain types of parallelism in instruction processing?

- Networking
- Multiprocessing
- Pipelining
- Multitasking

24 of 100

131 PU_2015_106

The systems developed to automatically translate text-based addresses to numeric IP addresses is called:-

- SNL
- LSN
- DNS
- WWW

25 of 100

201 PU_2015_106

Which of the following sorting algorithm is of divide-and-conquer type?

- Bubble sort
- Selection sort
- Quick sort
- Insertion sort

26 of 100

165 PU_2015_106

Given two sine waves A and B, if the frequency of A is twice that of B, the period of B is _____ that of A.

- One half
- Twice
- The same as
- Indeterminate form

27 of 100

203 PU_2015_106

When to stop testing and release the software to customers should be decided on the basis of:-

- Market conditions
- Test cost
- Availability of resources
- Test metrics

28 of 100

147 PU_2015_106

Expand LSN.

- Local Sequence Number
- Log Sequence Number
- Log Secure Number
- Logical Secure Number

29 of 100

217 PU_2015_106

In the context of Agents, if the next state of the environment is NOT determined by only the current state, then the scenario is called as:-

- Heuristic
- Stochastic
- Deterministic
- Z-Order

30 of 100

122 PU_2015_106
An R-S Latch is a:-

- One clock delay element
- Buffer circuit
- Sequential circuit element
- One bit memory element

31 of 100

208 PU_2015_106
Which of the following techniques/data structures are not suitable in terms of reducing page faults?

- Hashing
- Pointers
- Binary search
- All of these

32 of 100

197 PU_2015_106
The output of the following C program is _____.

```
void f1 (int a, int b) {
int c;
 c=a; a=b; b=c;
}
void f2 (int *a, int *b) {
int c;
 c=*a; *a=*b;*b=c;
}
int main( ) {
int a=4, b=5, c=6;
f1 (a, b);
f2 (&b, &c);
printf ("%d", c-a-b);
}
```

- 5
- 6
- 3
- 4

33 of 100

160 PU_2015_106

In the XMODEM protocol, the sender waits for what character from the receiver before beginning transmission?

- WACK
- ACK
- RVI
- NAK

34 of 100

191 PU_2015_106

The maximum number of super keys for the relation schema R (E, F, G, H) with E as the key is _____.

- 4
- 12
- 8
- 16

35 of 100

213 PU_2015_106

To insert an element in an ordered list of elements, which of the data structures gives the minimum time complexity?

- Circular queue
- Stack
- Array
- Linked list

36 of 100

156 PU_2015_106

Let G be a finite connected planar graph with at least 3 vertices. Then G has:-

- Every vertex of degree 6
- Every vertex of degree 6 or more
- At least one vertex of degree 5 or less
- At least one vertex of degree 6 or less

37 of 100

123 PU_2015_106

In a fixed-partition memory strategy, what causes internal fragmentation?

- An inordinate number of thread stacks in one address space
- Mismatches between memory requests and the size of the memory partitions
- High stress computation

- All of these

38 of 100

196 PU_2015_106

Which of the following pairs of protocols can use multiple TCP connections between the same client and the server?

- HTTP, FTP
- HTTP, TELNET
- FTP, SMTP
- HTTP, SMTP

39 of 100

195 PU_2015_106

The baud rate is _____.

- Equal to twice the bandwidth of an ideal channel
- Always equal to the bit transfer rate
- Not equal to the signaling rate
- Equal to half of the bandwidth of an ideal channel

40 of 100

192 PU_2015_106

Given two sorted lists of size m and n respectively. The number of comparisons needed in the worst case by the merge sort algorithm is:-

- max(m,n)
- min(m,n)
- m+n-1
- mn

41 of 100

177 PU_2015_106

Which of the following agrees with the Virtual memory concept?

- The process size can exceed total memory size and can still be executed
- Reduces the performance of the system
- Page conversion is not possible
- All of these

42 of 100

148 PU_2015_106

What is the use of a dirty page table?

- To minimize unnecessary redo during recovery
- To minimize unnecessary undo during backup

- To minimize unnecessary redo during backup
- To minimize unnecessary undo during recovery

43 of 100

211 PU_2015_106

Shadow copy scheme is used for ensuring:-

- Consistency
- Atomicity & durability
- Concurrency
- Flexibility

44 of 100

215 PU_2015_106

In a multi-stage graph, finding a minimum cost path using the forward approach:-

- The codes of the nodes are calculated forward from the sink
- The codes of the nodes are calculated backward from the source
- The codes of the nodes are calculated forward from the source
- The cost of the nodes are calculated backward from the sink

45 of 100

112 PU_2015_106

The tasks(s) of the lexical analysis phase is (are):-

- To build a uniform symbol table
- To parse the source program into the basic elements or tokens of the language
- To build a literal table and an identifier table
- All of these

46 of 100

105 PU_2015_106

Identify the addressing mode where the content of the program counter is added to the address part of the instructions in order to get effective address.

- Indexed addressing mode
- Base register addressing mode
- Register indirect addressing mode
- Relative addressing mode

47 of 100

155 PU_2015_106

Picard's method in numerical solution of differential equations is based on:-

- Successive integration

- Backward interpolation
- Forward interpolation
- Converging sequences of successive approximations

48 of 100

161 PU_2015_106

When transmitting odd-parity coded symbols, the number of bits that are zeroes in each symbol is:-

- Zero
- Odd
- Unknown
- Even

49 of 100

218 PU_2015_106

Which of the following is a recent improvement in the machine learning domain?

- Wide Learning
- Long Learning
- Deep Learning
- Lattice Learning

50 of 100

206 PU_2015_106

Arrays are best data structures:-

- For insert and delete the elements at any stage
- For relatively permanent collections of data
- For frequent modification of elements
- For the size of the structure and the data in the structure are constantly changing

51 of 100

178 PU_2015_106

Demand paging refers to the _____.

- A page is brought into memory only when a location on that page is actually referenced during execution
- Pages other than the one demanded by a page fault are brought in
- A page is brought into memory prior to execution
- All of these

52 of 100

180 PU_2015_106

Which two files are used during operation of the DBMS?

- Data dictionary and transaction log
- Data dictionary and query language
- Data manipulation language and query language
- Query language and utilities

53 of 100
199 PU_2015_106
In databases, locking level is also called as:-

- Granularity
- S lock
- X lock
- Dead lock

54 of 100
179 PU_2015_106
In Semaphores Special variable of Primitive Wait(s) is used:-

- To communicate a signal
- To receive a signal
- To transmit a signal
- To block a signal

55 of 100
169 PU_2015_106
Which of the following is true about the IP address?

- It was established as a user-friendly interface
- It is divided into exactly two classes
- It is 32 bits long
- It contains a fixed-length host ID

56 of 100
149 PU_2015_106
Moving process from a main memory to a disk is called:-

- Spooling
- Swapping
- Caching
- Scheduling

57 of 100
185 PU_2015_106

In one of the codes for transfer of numbers, the code for the succeeding number differs from that of the number only in the change of a single digit. The code under consideration is:-

- ASCII
- BCD
- Excess 3 Code
- Gray Code

58 of 100

214 PU_2015_106

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?

- VMTP
- SMTP
- UDP
- X.25

59 of 100

205 PU_2015_106

MSI stands for:-

- Medium Scale Intelligent Circuits
- Medium System Integrated Circuits
- Medium System Intelligent Circuits
- Medium Scale Integrated Circuits

60 of 100

104 PU_2015_106

In a memory system, four 256 x 8 PROM chips are used to make total memory of size 1024 × 4. What is the number of address bus lines?

- 8
- 10
- 16
- 4

61 of 100

258 PU_2015_106

Propositional logic is:-

- Compositional
- Declarative
- Context independent
- All of these

62 of 100
229 PU_2015_106
Which switching statically reserves the required bandwidth in advance?

- Packet Switching
- Hybrid Switching
- Mixed Switching
- Circuit Switching

63 of 100
231 PU_2015_106
Page fault frequency in an operating system is reduced when the:-

- Size of pages is reduced
- Processes tend to the I/O-bound
- Locality of reference is applicable to the process
- Processes tend to be CPU-bound

64 of 100
259 PU_2015_106
Conceptual Graphs consists of:-

- Alpha Nodes
- Logic Nodes
- Relation Nodes
- Beta Nodes

65 of 100
232 PU_2015_106
A COCOMO model stands for:-

- Complete Cost Estimation Model
- Comprehensive Cost Estimation Model
- Constructive Cost Estimation Model
- Common Cost Estimation Model

66 of 100
257 PU_2015_106
Which of the following is false?

- Backtracking algorithms do not have best case, worst case and average case behaviors
- Greedy Technique algorithms do not have best case, worst case and average case behaviors
- Dynamic Programming algorithms do not have best case, worst case and average case behaviors

- Branch and Bound Technique algorithms do not have best case, worst case and average case behaviors

67 of 100

230 PU_2015_106

Example of processor-pool based on distributed computing system is:-

- Sprite system
- Internet
- Xerox PARC
- Amoeba

68 of 100

224 PU_2015_106

In a minimum heap with N nodes, the cost of removing the minimum element in the heap is:-

- O(Log N)
- O(N Log N)
- $O(N^2)$
- O(2 Log N)

69 of 100

251 PU_2015_106

What is the function of the active monitor on a token-ring LAN?

- Check the frame reservation field
- Remove frames that have circulated the ring
- Check frame priority
- Remove frames whose priority value equals their reservation value

70 of 100

233 PU_2015_106

In the direct-communication discipline, each process that wants to communicate must _____ name the _____ of the communication.

- Explicitly ; recipient or sender
- Implicitly ; recipient or sender
- Implicitly ; recipient and sender
- Explicitly ; recipient and sender

71 of 100

239 PU_2015_106

A LEX source program is a specification of a lexical analyzer, consisting of a set of _____.

- Regular expressions
- Sub expressions

- Keywords
- Common tokens

72 of 100

240 PU_2015_106

Which of the following is the disadvantage of cloud-based database systems?

- Difficulty in obtaining locks on remote data
- Difficult to Access data to another physical machine
- Ensuring atomic transaction commit via two-phase commit is not easy
- All of these

73 of 100

234 PU_2015_106

A _____ graph is one in which every cycle has unique entry.

- System
- Flow
- DAG
- Reducible

74 of 100

228 PU_2015_106

Tuples in the relational data model are required to be unordered because:-

- It makes implementation easier
- It makes the database more efficient
- The user should not be burdened with having to remember which tuple is next
- The relational model is based on set theory and sets are unordered collections of entities

75 of 100

246 PU_2015_106

Directly minimizing squared-error can lead to an effect called _____.

- Under-fitting
- Over-fitting
- Regularization
- Normalization

76 of 100

245 PU_2015_106

Which of the following statements is / are true?

- The goal of regression is to learn a mapping from one real-valued space to another
- Linear regression is the simplest form of regression

- Linear regression is easy to understand, often quite effective, and very efficient to learn and use.
- All of these

77 of 100

241 PU_2015_106

Which of the following statements is true?

- Reinforcement learning, in which an agent (e.g., a robot or controller) seeks to learn the optimal actions to take based the outcomes of past actions
- Supervised Learning, in which the training data is labeled with the correct answer
- Unsupervised learning, in which we are given a collection of unlabeled data, which we wish to analyze and discover patterns within
- All of these

78 of 100

220 PU_2015_106

Which of the following component of a database is responsible for ensuring the atomicity and durability properties of transaction?

- Concurrency control
- Recovery manager
- Resource control
- Transaction monitors

79 of 100

238 PU_2015_106

Which of the following does not belong to activation record for a procedure?

- Arg count
- Old value
- Return value
- Formal parameters

80 of 100

250 PU_2015_106

Let A be a stochastic matrix of type n × n. Then:-

- Trace of A = 0
- 1 is an Eigen value for A
- Trace of A = 1
- Trace of A = n

81 of 100

268 PU_2015_106

What does the following declaration mean?

int (*ptr)[10];

- ptr is an array of 10 integers
- ptr is a pointer to an array of 10 integers
- ptr is array of pointers to 10 integers
- ptr is an pointer to array

82 of 100

276 PU_2015_106

Which one of the following is true for a CPU having a single interrupt request line and a single interrupt grant line?

- Neither vectored interrupt nor multiple interrupting devices are possible
- Vectored interrupts and multiple interrupting devices are both possible
- Vectored interrupts are not possible but multiple interrupting devices are possible
- Vectored interrupt is possible but multiple interrupting devices are not possible

83 of 100

291 PU_2015_106

_____ refers to the ability to have more than one method with the same signature in an inheritance hierarchy.

- Polymorphism
- Inheritance
- Abstraction
- Multiple Inheritance

84 of 100

286 PU_2015_106

What does the concept route aggregation mean when one talks about using variable subnet masking?

- Calculating the available host addresses in the AS
- Reclaiming unused space by means of changing the subnet size
- Combining routes to multiple networks into one supernet
- Deleting unusable addresses through the creation of many subnets

85 of 100

267 PU_2015_106

Which of the following system integrate multiple heterogeneous data sources, providing an integrated global view of the data and providing query facilities?

- Global mediator systems
- Local mediator systems
- Laccase mediator systems

- Mediator systems

86 of 100

271 PU_2015_106

Consider the set H of all 3 x 3 matrices of the type:-

$$\begin{bmatrix} a & f & e \\ 0 & b & d \\ 0 & 0 & c \end{bmatrix}$$

Where a, b, c, d, e and f are real numbers and abc ≠ 0. Under the matrix multiplication operation, the set H is:-

- A group
- A semigroup but not a monoid
- Neither a group nor a semigroup
- A monoid but not a group

87 of 100

292 PU_2015_106

Which of the following instructions will not be allowed in Kernel mode?

- Set the timer-of-day clock
- Disable interrupts
- Change memory map
- Reset the timer

88 of 100

289 PU_2015_106

Which of the following is true?

P: Every relation is 3NF is also in BCNF
Q: A relation R is in 3NF if every non-prime attribute of R is fully functionally dependent on every key of R
R: Every relation in BCNF is also in 3NF
S: No relation can be in both BCNF and 3NF

- S
- P
- Q
- R

89 of 100

270 PU_2015_106

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?

- 600

- 1200
- 800
- 876

90 of 100

269 PU_2015_106

Which of the following grammar rules violate the requirements of an operator grammar? Here P, Q, R are non-terminals and r, s, t are terminals.

(i) P → QR
(ii) P → Q s R
(iii) P → ε
(iv) P → Q t R r

- (i) only
- (iii) and (iv) only
- (ii) and (iii) only
- (i) and (iii) only

91 of 100

288 PU_2015_106

Which of the following statements are true?

(1) The problem of determining whether there exists a cycle in an undirected graph is in P.
(2) The problem of determining whether there exists a cycle in an undirected graph is in NP.
(3) If a problem Q is NP-Complete, there exists a non-deterministic polynomial time algorithm to solve Q.

- 2 and 3 only
- 1 and 2 only
- 1, 2 and 3
- 1 and 3 only

92 of 100

280 PU_2015_106

A CPU generally handles an interrupt by executing an interrupt service routine:-

- As soon as an interrupt is raised
- By checking the interrupt register after finishing the execution of the current instruction
- By checking the interrupt register at the end of fetch cycle
- By checking the interrupt register at fixed time intervals

93 of 100

287 PU_2015_106

Which of the following statements are true about an SQL query?

P: An SQL query can contain a HAVING clause even if it does not have a GROUP BY clause
Q: An SQL query can contain a HAVING clause only if it has GROUP BY clause

R: All attributes used in the GROUP BY clause must appear in the SELECT clause
S: Not all attributes used in the GROUP BY clause need to appear in the SELECT clause

- Q and R
- Q and S
- P and R
- P and S

94 of 100

277 PU_2015_106
What is the main purpose of the secondary ring in FDDI protocol?

- The secondary alternates with the primary in transmission of data
- If the primary ring fails, the primary makes a wrap connection with the secondary to heal the ring
- If the primary ring fails, the secondary takes over
- The secondary is used to send emergency messages when the primary is busy

95 of 100

260 PU_2015_106

Let π_A be a problem that belongs to the class NP. Then which one of the following is true?

- If π_A is NP-hard, then it is NP-complete
- There is no polynomial time algorithm for π_A
- If π_A can be solved deterministically in polynomial time, then P = NP
- π_A may be undecidable

96 of 100

290 PU_2015_106
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 register

- Only S2 and S3
- S1, S2 and S3
- Either S2 or S3
- Either S1 or S2

97 of 100

293 PU_2015_106
In a client/server environment new technology can be incorporated into the system. This feature is categorized as:-

- Scalability

- Interoperability
- Affordability
- Adaptability

98 of 100

278 PU_2015_106

The performance of a scatter-net degrades as the number of piconets is increased. Degradation is caused by _____ probability that two, or more, devices may simultaneously attempt transmission using _____.

- A decreased ; a different carrier frequency
- A decreased ; the same carrier frequency
- An increased ; the same carrier frequency
- An increased ; the different carrier frequency

99 of 100

275 PU_2015_106

The varying characteristics of transmission lines:-

- Enable a fixed block size to be optimum for use on all circuits
- Enable a long block size to be optimum on noisy circuits
- Enable a short block size to be optimum on non-noisy circuits
- Enable a variable block size to be optimum for use on all circuits

100 of 100

279 PU_2015_106

Rendezvous refers to _____.

- The condition in which, the receiver is not in the network
- The condition in which, the sender is able to access the medium on priority basis
- The condition in which, both, the sender and receiver are blocked until the message is delivered
- The condition in which, the sender is able to access the medium at any time

Examination: **Ph.D. Computer Science and Engineering**

Section 1 - Section 1

Question No.1 4.00

Bookmark

Identify the correct order in which a server process must invoke the function calls accept, bind, listen, and recv according to UNIX socket API.

- listen, accept, bind, recv
- accept, listen, bind, recv
- bind, accept, listen, recv
- bind, listen, accept, recv

Question No.2 4.00

Bookmark

Services to support Database management system in any cloud based system should be part of

- Software as a Service (SaaS)
- Platform as a Service (PaaS)
- Enterprise as a Service (EaaS)
- Infrastructure as a Service (IaaS)

Question No.3 4.00

Bookmark

A formal grammar is a_____ for rewriting strings.

- Set of rules
- Set of languages
- Set of functions
- Both a & b

Question No.4 4.00

Bookmark

Choose the correct meaning of the italicized idiom.
He had great difficulty to *save his bacon* when he was blackmailed.

- Save pork
- Threaten somebody
- Escape death
- Put bacon in the refrigerator

Question No.5 4.00

Bookmark

An attribute or set of attributes within one relation that matches the candidate key of some (possibly the same) relation.

- Candidate key
- Super key
- Primary key
- Foreign key

Question No.6 4.00

Bookmark

Which of the following permutation can be obtained in the output (in the same order) using a stack assuming that the input is the sequence 1, 2, 3, 4, 5 in that order?

- 3, 4, 5, 1, 2
- 1, 5, 2, 3, 4
- 5, 4, 3, 1, 2
- 3, 4, 5, 2, 1

Question No.7 4.00

Bookmark

Choose the correct meaning of the italicized idiom.
Sheela's work seems to be a *Penelope's web.*

- Declining
- In her best form
- Endless
- Difficult

Question No.8 4.00

Bookmark

Internet of Things needs a lot of network connection. What is the proposed "white Space" radio standard called?

- Zigbee
- Weightless
- WiMax
- Bluetooth

Question No.9 4.00

Bookmark

In the transfer of file between server and client, if the transmission rates along the path is 10Mbps, 20Mbps, 30Mbps, 40Mbps. The throughput is usually____ .

- 10Mbps
- 40Mbps
- 50Mbps
- 20Mbps

Question No.10 4.00

Bookmark

Write the regular expression to denote the language L ={ a,b} such that all the string do not contain the substring " ab".

- a*b*
- b*a*
- (ab)*
- All of these

Question No.11 4.00

Bookmark

An algorithm A is admissible if

- It returns more solutions, but not an optimal one
- It is guaranteed to return an optimal solution when one exists
- It guarantees to return more optimal solutions
- It is not guaranteed to return an optimal solution when one exists

Question No.12 4.00

Bookmark

What is the worstcase time complexity of Build Heap operation. Build Heap is used to build a max(or min) binary heap from a given array. Build Heap is used in Heap Sort as a first step for sorting.

- O(Logn)
- O(n)
- O(nLogn)
- O(n^2)

Question No.13 4.00

Bookmark

Which one of the following assertions concerning code inspection and code walkthrough is true?

- Code inspection and code walkthrough are synonyms
- Code walkthrough is usually carried out by an independent test team
- Code inspection is carried out once the code has been unit tested
- Adherence to coding standards is checked during code inspection

Question No.14 4.00

Bookmark

Which is also called Single inference Rule?

- Resolution
- Reform
- Reference
- Conjunctive normal form

Question No.15 4.00

Bookmark

Which of the following is/are example(s) of stateful application layer protocols?
(i) HTTP (ii) FTP (iii) TCP (iv) POP3

- (iii) and (iv) only
- (ii) and (iii) only
- (i) and (ii) only
- (ii) and (iv) only

Question No.16 4.00

Bookmark

A processor has 40 distinct instructions and 24 general purpose registers. A 32-bit instruction word has an opcode, two register operands and an immediate operand. The number of bits available for the immediate operand field is _____.

- 32
- 16
- 12
- 8

Question No.17 4.00

Bookmark

Identify the underlined part of speech:
Sorry, I don't know any foreign languages

- adjective
- pronoun
- adverb
- noun

Question No.18 4.00

Bookmark

In a binary max heap containing n numbers, the smallest element can be found in time_____.

- O(1)
- O(logn)
- O(log2n)
- O(n)

Question No.19 4.00

Bookmark

Find out the missing term:

1, 2, 3, 6, 11, 20, 37, 68, ?

- 125
- 105
- 126
- 124

Question No.20 4.00

Bookmark

Ramesh had a cold and couldn't go to the party, so I bought him a cake to make up for his_____

- depression
- disappointment
- disgust
- disillusion

Question No.21 4.00

Bookmark

How many stacks are needed to implement a queue? Consider the situation where no other data structure like arrays, linked list is available to you.

- 3
- 1
- 2
- 4

Question No.22 4.00

Bookmark

Consider an undirected random graph of eight vertices. The probability that there is an edge between a pair of vertices is 1/2. What is the expected number of unordered cycles of length three?

- 7
- 0
- 1
- 8

Question No.23 4.00

Bookmark

Choose the missing term: 3F,6G,11I,18L, ?

- 27P
- 28Q
- 26N
- 27O

Question No.24 4.00

Bookmark

In fixed sized partition, the degree of multi programming is bounded by _____.

- the number of partitions
- the CPU utilization
- the memory size
- all of the mentioned

Question No.25 4.00

Bookmark

In the worst case, the number of comparisons needed to search a singly linked list of length n for a given element is

- log 2n
- n
- n - 1
- n/2

Question No.26 4.00

Bookmark

What is the output of a lexical analyzer?

- Intermediate Code
- A parse Tree
- A list of tokens
- Machine code

Question No.27 4.00

Bookmark

Which of these keywords is not a part of exception handling?

- try
- finally
- throws
- thrown

Question No.28 4.00

Bookmark

If files are organized so that the ordering of data records is the same as or close to the ordering of data entries in some index. Then that index is called

- Unclustered
- Clustered
- Dense
- Sparse

Question No.29 4.00

Bookmark

Input of Lex is?

- ASCII data
- statements
- Set of regular expression
- Numeric data

Question No.30 4.00

Bookmark

Which of the below is an invalid identifier with main method?

- Final
- Public
- Static
- Private

Question No.31 4.00

Bookmark

In which addressing mode the operand is given explicitly in the instruction?

- Immediate mode
- Index mode
- Absolute mode
- Indirect mode

Question No.32 4.00

Bookmark

Match the following:

List - I

(P) Prim's algorithm for minimum spanning tree

(Q) Floyd-Warshall algorithm for all pairs shortest paths

(R) Mergesort

(S) Hamiltonian circuit

List - II

(i) Backtracking
(ii) Greedy method
(iii) Dynamic programming
(iv) Divide and conquer

- P-iii, Q-ii, R-iv, S-i
- P-i, Q-ii, R-iv, S-iii
- P-ii, Q-i, R-iii, S-iv
- P-ii, Q-iii, R-iv, S-i

Question No.33 4.00

Bookmark

Which of the following term is best defined by the statement:"When one object invokes another independent object, a message is passed between the two objects."?

- Control coupling
- Stamp coupling
- External coupling
- Data coupling

Question No.34 4.00

Bookmark

Which one of the following task is not done by data link layer?

- error control
- channel coding
- framing
- flow control

Question No.35 4.00

Bookmark

Statements: Some bats are snakes, No snake is dangerous
Conclusion:
I. Some dangerous animals are snakes
II. Some bats are not dangerous.

- If either I or II follows
- If only conclusion II follows
- If neither I nor II follows
- If only conclusion I follows

Question No.36 4.00

Bookmark

Based on the given information, answer the following question.
1. Six friends P,Q,R,S,T and U are memebers of a club and play different games of Football, Cricket, Tennis, Basketball, Badminton and Volleyball
2. T who is taller than P and S plays Tennis.
3. The tallest among them plays Basketball.
4. The Shortest among them plays volleyball.
5. Q and S neither play Volleyball nor Basketball.
6. R plays Volleyball
7. T is between Q who plays Football and P in order of height

What does S Play?

- Cricket
- Badminton
- Either Cricket or Badminton
- None of the above

Question No.37 4.00

Bookmark

Which one of the following protocols is NOT used to resolve one form of address to another one?

- RARP
- DNS
- ARP
- DHCP

Question No.38 4.00

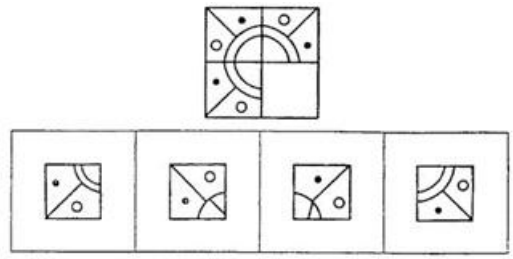
Bookmark

MQTT is a _____ protocol.

- Machine Things
- Internet of Things
- Machine to Machine and Internet of Things
- Machine to Machine

Question No.39 4.00

Bookmark



- D
- B
- C
- A

Question No.40 4.00

Bookmark

Good restaurants serving pure vegetarian food are very hard to _____.

- go through
- come by
- take to
- get in

Question No.41 4.00

Bookmark

Which one of the following is a transport layer protocol used in internet?

- TCP
- UDP
- Both (a) and (b)
- None of the mentioned

Question No.42 4.00

Bookmark

Which one of the following is NOT a part of the ACID properties of database transactions?

- Consistency
- Atomicity
- Deadlock-freedom
- Isolation

Question No.43 4.00

Bookmark

Which of the following options is/are true for K-fold cross-validation?
i. Increase in K will result in higher time required to cross validate the result.
ii.Higher values of K will result in higher confidence on the cross-validation result as compared to lower value of K.
iii.If K=N, then it is called Leave one out cross validation, where N is the number of observations.

- 1,2 and 3
- 1 and 3
- 1 and 2
- 2 and 3

Question No.44 4.00

Bookmark

Which one of the following fields of an IP header is NOT modified by a typical IP router?

- Checksum
- Time to Live (TTL)
- Source address
- Length

Question No.45 4.00

Bookmark

Which of the following provider rely on virtual machine technology to deliver servers?

- IaaS
- CaaS
- AaaS
- PaaS

Question No.46 4.00

Bookmark

Which of the following is /are modern programming language(s)?

- Kotlin
- Julia
- Haxe
- All of these

Question No.47 4.00

Bookmark

When is a resolution called as refutation-complete?

- Sentence is satisfiable
- Sentence is unsatisfiable
- Sentence remains the same
- None of the mentioned

Question No.48 4.00

Bookmark

Select the option which improves the underlined part of the sentences.
The Prime Minister called on the President.

- No improvement
- to
- in
- by

Question No.49 4.00

Bookmark

Which of the following is a recent development in Machine Learning?

- Sound Learning
- Deep Learning
- Wave Learning
- Meta Learning

Question No.50 4.00

Bookmark

Assume that for a certain processor, a read request takes 50 nanoseconds on a cache miss and 5 nanoseconds on a cache hit. Suppose while running a program, it was observed that 80% of the processor's read requests result in a cache hit. The average read access time in nanoseconds is _____.

- 1.4
- 1.3
- 14
- 13

Question No.51 4.00

Bookmark

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.

- 33
- 32
- 31
- 35

Question No.52 4.00

Bookmark

Obtain the missing term.

300, 296, 287, 271, ? , 210

- 246
- 250
- 244
- None of the above

Question No.53 4.00

Bookmark

An AI technique that allows computers to understand associations and relationships between objects and events is called:

- Heuristic processing
- Pattern matching
- Cognitive science
- Relative symbolism

Question No.54 4.00

Bookmark

What property of the files prevents sharing of files and directories?

- Tree structure
- Length
- Two Level Structure
- One Level Structure

Question No.55 4.00

Bookmark

A single array A[1..MAXSIZE] is used to implement two stacks. The two stacks grow from opposite ends of the array. Variables top1 and top2 (topl< top 2) point to the location of the topmost element in each of the stacks. If the space is to be used efficiently, the condition for "stack full" is:

- top1= top2 -1
- top1 + top2 = MAXSIZE
- (top1 = MAXSIZE/2) and (top2 = MAXSIZE/2+1)
- (top1= MAXSIZE/2) or (top2 = MAXSIZE)

Question No.56 4.00

Bookmark

Assertion: - India's president is appointed on a five-year term

Reason: -PratibhaPatil was appointed as India's first woman president in 2007

- Both A and R are true and R is the correct explanation of A
- A is true but R is false
- A is false but R is true
- Both A and R are true and R is not the correct explanation of A

Question No.57 4.00

Bookmark

In orthographic projection, the object is placed with one of its faces _____ to the picture plane.

- Inclined
- Perpendicular
- Parallel
- Any of the above

Question No.58 4.00

Bookmark

The network layer concerns with_____ .

- bits
- frames
- packets
- none of the mentioned

Question No.59 4.00

Bookmark

The disadvantage of invoking the detection algorithm for every request is :

- consumption of memory
- excessive time consumption for memory allocation
- considerable overhead in computation time
- all of the above mentioned

Question No.60 4.00

Bookmark

Choose the best synonym of the italicized word.
Each one of us is the subject of *derision* at some time or the other in our life.

- irony
- laughter
- criticism
- ridicule

Question No.61 4.00

Bookmark

To set up the window to capture all Click events, which of the following statement is used ?

- window.captureEvents(Event.CLICK);
- window.raiseEvents(Event.CLICK);
- window.handleEvents (Event.CLICK);
- window.routeEvents(Event.CLICK);

Question No.62 4.00

Bookmark

_____ are also known as generic pointers, which refer to variables of any type.

- this pointer
- base pointer
- void pointer
- null pointer

Question No.63 4.00

Bookmark

Which of the following model includes a backward elimination feature selection routine?

- MCV
- MARS
- MCRS
- All of the Mentioned

Question No.64 4.00

Bookmark

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 post order traversal sequence of the same tree?

- 10, 20, 15, 23, 25, 35, 42, 39, 30
- 15, 10, 23, 25, 20, 35, 42, 39, 30
- 15, 10, 25, 23, 20, 42, 35, 39, 30
- 15, 20, 10, 23, 25, 42, 35, 39, 30

Question No.65 4.00

Bookmark

An assembler is

- Data dependent
- Machine dependent
- Programming language dependent
- Syntax dependent

Question No.66 4.00

Bookmark

Which of the following strings is not generated by the following grammar? S → SaSbS|ε.

- aababb
- aaabb
- aabb
- abab

Question No.67 4.00

Bookmark

The statement that is executed automatically by the system as a side effect of the modification of the database is:

- backup
- recovery
- trigger
- assertion

Question No.68 4.00

Bookmark

The finite automata accept the following language:

- Context Free Language
- Context Sensitive Language
- Regular Language
- None of these

Question No.69 4.00

Bookmark

Consider a non-pipelined processor with a clock rate of 2.5 gigahertz and average cycles per instruction of four. The same processor is upgraded to a pipelined processor with five stages; but due to the internal pipeline delay, the clock speed is reduced to 2 gigahertz. Assume that there are no stalls in the pipeline. The speed up achieved in this pipelined processor is_____.

- 4
- 3
- 4.2
- 3.2

Question No.70 4.00

Bookmark

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_____.

- 3
- 2
- 1
- 4

Question No.71 4.00

Bookmark

All of the following accurately describe Hadoop, EXCEPT:

- Real Time
- Distributed Computing
- Open Source
- Java Based

Question No.72 4.00

Bookmark

A software requirements specification (SRS) document should avoid discussing which one of the following?

- Design specification
- Non-functional requirements
- User interface issues
- Interfaces with third party software

Question No.73 4.00

Bookmark

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.

- 44
- 14
- 34
- 24

Question No.74 4.00

Bookmark

_____ is obviously infinite language.

- Factorial
- Palindrome
- Equal-Equal
- Even-Even

Question No.75 4.00

Bookmark

Time quantum is defined in____.

- shortest job scheduling algorithm
- round robin scheduling algorithm
- multilevel queue scheduling algorithm
- priority scheduling algorithm

Question No.76 4.00

Bookmark

Which of the following is a recent cyber security issue that affected many systems across the globe?

- WannaLaugh
- Wannacry
- Deepcry
- None of the these

Question No.77 4.00

Bookmark

Which is a refutation complete inference procedure for propositional logic?

- Clauses
- Proposition
- Variables
- Propositional resolution

Question No.78 4.00

Bookmark

Which of the following function provides unsupervised prediction?

- cl_forecast
- cl_precast
- cl_nowcast
- cl_predict

Question No.79 4.00

Bookmark

Which level of RAID refers to disk mirroring with block striping?

- RAID Level 3
- RAID Level 4
- RAID Level 2
- RAID Level 1

Question No.80 4.00

Bookmark

What is the peculiarity of red black trees?

- In red-black trees, the leaf nodes are not relevant and do not contain data.
- They are not self balancing
- In red-black trees, the root do not contain data.
- In red-black trees, the leaf nodes are relevant and contain data.

Question No.81 4.00

Bookmark

In the PL/SQL, the package specification contains _____declarations.

- Friend
- Private
- Public
- Protected

Question No.82 4.00

Bookmark

Given the following statements:
S1: A foreign key declaration can always be replaced by an equivalent check assertion in SQL. S2: Given the table R (a, b, c) where a and b together form the primary key, the following is a valid table definition. CREATE TABLE S (a INTEGER, d INTEGER, e INTEGER, PRIMARY KEY (d), FOREIGN KEY (a) references R).Which one of the above statements is CORRECT?

- S1 is FALSE and S2 is TRUE
- S1 is TRUE and S2 is FALSE
- Both S1 and S2 are FALSE
- Both S1 and S2 are TRUE

Question No.83 4.00

Bookmark

The concept of FA is much used in this part of the compiler :

- Parser
- Lexical Analyzer
- Code Generation
- Code Optimization

Question No.84 4.00

Bookmark

The security of andorid applications are goverened by

- App Size
- App Permissions
- Protocols
- None of the above

Question No.85 4.00

Bookmark

In a Rule based system, procedural domain knowledge is in the form of _____.

- Control rules
- Production rules
- Rule interpreters
- Meta-rules

Question No.86 4.00

Bookmark

Choose the best antonym of the italicized word.
Ravi and Raghu are really *obstinate* men.

- understanding
- friendly
- compliant
- considerate

Question No.87 4.00

Bookmark

Which of the following cloud concept is related to pooling and sharing of resources?

- QoS
- Virtualization
- Polymorphism
- Abstraction

Question No.88 4.00

Bookmark

Personal consultant knowledge bases contain information in the form of _____.

- Parameters
- Contexts
- Production rules
- All of the above

Question No.89 4.00

Bookmark

In a code language, 321 means "Hot Black Coffee", 536 means "Very Hot Summer", and 589 means "Summer and Winter". Which digit stands for "Very" ?

- 5
- 6
- 9
- 3

Question No.90 4.00

Bookmark

Choose the correct meaning of the italicized idiom.
Anil got me into trouble by giving a *false colour* to my statement.

- Giving a wrong character
- Giving good impression
- Colouring the sentence
- Giving a wrong colour box

Question No.91 4.00

Bookmark

Let X be a recursive language and Y be a recursively enumerable but not recursive language. Let W and Z be two languages such that Y reduces to W, and Z reduces to X (reduction means the standard many- one reduction). Which one of the following statement is TRUE?

- W is not recursively enumerable and Z is not recursive
- W can be recursive and Z is recursively enumerable.
- W can be recursively enumerable and Z is recursive.
- W is not recursively enumerable and Z is recursive.

Question No.92 4.00

Bookmark

It takes eight hours for a 600 km journey, if 120 km is done by train and the rest by car. It takes 20 minutes more, if 200 km is done by train and the rest by car. The ratio of the speed of the train to that of the cars is:

- 2:3
- 3:4
- 1:2
- 1:4

Question No.93 4.00

Bookmark

An accurate and efficient raster line-generating algorithm is _____.

- Bresenham's line algorithm
- Mid-point algorithm
- Parallel line algorithm
- DDA algorithm

Question No.94 4.00

Bookmark

Study the following information carefully and answer the question below it

The Director of an MBA college has decided that six guest lectures on the topics of Motivation, Decision Making, Quality Circle, Assessment Centre, Leadership and Group Discussion are to be organised on each day from Monday to Sunday.
(i) One day there will be no lecture (Saturday is not that day), just before that day Group Discussion will be organised.
(ii) Motivation should be organised immediately after Assessment Centre.
(iii) Quality Circle should be organised on Wednesday and should not be followed by Group Discussion
(iv) Decision Making should be organised on Friday and there should be a gap of two days between Leadership and Group Discussion

How many lectures are organised between Motivation and Quality Circle?

- Two
- Four
- Three
- One

Question No.95 4.00

Bookmark

Let the class of language accepted by finite state machine be L1 and the class of languages represented by regular expressions be L2 then:

- L1U L2=*
- L1=L2
- L1 < L2
- L1 >= L2

Question No.96 4.00

Bookmark

When a function is recursively called all the automatic variables are stored in a _____ .

- Linked List
- Queue
- Array
- Stack

Question No.97 4.00

Bookmark

Which one of the following is an application of Queue Data Structure?

- Resource sharing among multiple consumers.
- Asynchronous data transfer between two processes
- Load Balancing
- All of these

Question No.98 4.00

Bookmark

Which one of the following in NOT necessarily a property of a Group?

- Existence of identity
- Commutative
- Existence of inverse for every element
- Associative

Question No.99 4.00

Bookmark

Based on the information given, answer the below question.
1. A,B,C,D,E and F are travelling in a bus.
2. There are two reporters, two mechanics, one photographer and one writer in the group.
3. Photographer A is married to D who is a reporter.
4. The writer is married to B who is of the same profession as that of F.
5. A,B,C,D are two married couples and no one in this belong to the same profession.
6. F is the brother of C.

How is C related to F?

- Brother
- Brother-in-law
- Sister
- Cannot be determined

Question No.100 4.00

Bookmark

Which of the following statements are TRUE about an SQL query?
P : An SQL query can contain a HAVING clause even if it does not have a GROUP BY clause
Q : An SQL query can contain a HAVING clause only if it has a GROUP BY clause
R : All attributes used in the GROUP BY clause must appear in the SELECT clause
S : Not all attributes used in the GROUP BY clause need to appear in the SELECT clause

- Q and S
- P and R
- P and S
- Q and R