

1.

The truth table

X Y f(X,Y)

0 0 0

0 1 0

1 0 1

1 1 1

represents the Boolean function :

Answer: X

2.

Consider the following recursive C function.

```
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 () ?

Answer : 25

3.

Which of the following is shared between all of the threads in a process? Assume a kernel level thread implementation.

Answer: File Descriptor/ Heap/ Stack pointer/ stack (Shared)

4.

_____ is the first schema to be designed when you are developing a DBMS

Answer: Relation Schema / Conceptual Schema

5.

_____ 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.

Answer: Router

6.

Buffer stock' is the level of stock which is _____

7.

The addressing mode used in an instruction of the form ADD R1, R2 is _____.

Answer: Absolute/Direct Addressing

8.
Which of the following is not true of virtual memory?

Ans: It requires the use of a disk or other secondary storage.(Actually it does not require).

9.
General Purpose Software which creates and manipulates database is

Answer : DBMS

10.
The _____ is generally used to group hosts based on the physical network topology.

Answer: Hub/Switch

11.
Identify the item that is not taken into account in computing the current ratio

12.
#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", **p, **ptr);
}
The output of the program is ____

Answer: 10 40

13.

What will be the output of the following C program?

```
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);
}
```

Output : 3 1 2 2 1 3 4 4 4

14.

Which of the following are generally the inventories of a service business?

Answer:

15.

The load instruction is mostly used to designate a transfer from memory to a processor register known as

Answer: Accumulator

16.

With a single resource, deadlock occurs,

- a) if there are more than two processes competing for that resource
- b) if there are only two processes competing for that resource
- c) if there is a single process competing for that resource
- d) **None of these**

Answer: Deadlock Doesnot occur with a single resource

17.

System catalogue is a system created database that describes

18.

_____ 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.

Answer: Router

19.

Which of the following is an advantage of using database systems?

Answer: Data can be accessed by multiple programs

20.

User Datagram Protocol adds no additional reliability mechanisms except one which is optional. Identify that.

Answer: Checksum

21.

Which of the following groups of workers would be classified under indirect labour?

22.

Mutual exclusion problem occurs between

Two disjoint process that do not interact

- Process sharing same resources

- **Process not sharing same resources**

- None of these

23.

Simplified form of the boolean expression $(X + Y + XY)(X + Z)$ is

Answer : $X+YZ$

24.

Consider the following program:

```
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));
}
```

The value printed by this program is

Answer: 3 (i.e. $5-2=3$ or the maximum difference between any two consecutive numbers taken from left to right)

25.

What schema defines how and where the data are organized in a physical storage?

Answer: Physical Database Schema

26.

Which of the following logic expression is incorrect?

Answer: $1 \text{ XOR } 1 \text{ XOR } 0 = 1$ (FALSE, actually should be 0)

27.

The maintenance department of a manufacturing company is a/ an _____

28.

For the IEEE 802.11 MAC protocol for wireless communication, which of the following statements is/are TRUE ?

I. At least three non-overlapping channels are available for transmissions.

II. The RTS-CTS mechanism is used for collision detection.

III. Unicast frames are ACKed.

Answer: I and III are true

29.

Use of _____ allows for some processes to be waiting on I/O while another process executes.

Answer :

30.

To prevent any method from overriding, the method has to be declared as,

Answer: Final

31.

The protocol data unit (PDU) for the application layer in the Internet stack is

(C) Message is answer.

For Application, Presentation and Session layers, the PDU is message

For Transport layer, PDU is segment for TCP and datagram for UDP

For Network layer, PDU is packet

For Datalink layer, PDU is frames

For physical layer, PDU is stream of bits

32.

The E-R model was first introduced by

Answer: Peter Chen

33.

Acid test ratio should normally be _____

34.

The truth table

X Y f(X,Y)

0 0 0

0 1 0

1 0 1

1 1 1

represents the Boolean function

Answer: X

35.

_____ OS pays more attention on the meeting of the time limits.

Answer: Real Time

36.

Consider the following C program.

```
#include
```

```
int f1 (void) ;
```

```
int f 2 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_____.

Answer: 230

37.

Consider the function func shown below:

```
int func(int num) {
```

```
int count = 0;
```

```
while (num) {
```

```
count++;
```

```
num>>= 1;
```

```
}
```

```
return (count);
```

```
}
```

The value returned by func(435)is

Answer: 9

38.

Budgetary control facilitates easy introduction of the _____

39.

The father of relational database system is

Answer: Edgar Frank "Ted" Codd

40.

The performance of cache memory is frequently measured in terms of a quantity called

Answer: Hit Ratio

41.

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?

(A) 245.248.136.0/21 and 245.248.128.0/22

(B) 245.248.128.0/21 and 245.248.128.0/22

(C) 245.248.132.0/22 and 245.248.132.0/21

(D) 245.248.136.0/22 and 245.248.132.0/21

42.

Using 10's complement 72532- 3250 is

Answer: 69282

43.

What is the RDBMS terminology for a row

Answer: Tuple

44.

A current ratio of less than one means

Answer: Liabilities are Greater than assets

45.

Consider the following C program segment.

```
#include
intmain()
{char sl [7]="1234",*p;
p=sl+2;
*p='0';
printf ("%s",sl)
{
```

What will be printed by the program?

Answer: 1204

46.

The 16-bit 2's complement representation of an integer is 1111 1111 1111 0101, its decimal representation is

Answer : -11

47.

Which of the following is/are example(s) of stateful application layer protocols?

- (i) HTTP
- (ii) FTP
- (iii) TCP
- (iv) POP3

Answer: (ii) & (iv)

48.

What is the software that runs a computer, including scheduling tasks, managing storage, and handling communication with peripherals?

Answer: Operating System

49.

Budgetary control system acts as a friend, philosopher and guide to the _____

Management

Share holders

Creditors

Employees

50.

Which of the following is not usually stored in a two-level page table?

51.

Consider the following recursive C function.

```
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 () ?

Answer : 25

52.

A circuit that converts n inputs to 2^n outputs is called

Answer : Decoder

53.

The relationship that exists within the same entity type is called as _____ relationship.

Answer: Recursive

54.

TCP manages a point-to-point and _____ connection for an application between two computers.

Answer : Reliable

55.
Decoder is a

Answer: decoder is a combinational logic circuit that converts binary information from the n coded inputs to a maximum of 2^n unique outputs

56.
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?

Answer: 30

57.
The purpose of a TLB is

Answer: A translation lookaside buffer (TLB) is a memory cache that stores recent translations of virtual memory to physical addresses for faster retrieval

58.
#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 _____10 40__.

59.
The total cost that increases when the quantity produced is increased by one unit is called _____

Ans: Marginal Cost

60.
Normalisation of database is used to

to reduce data redundancy and improve data integrity

61.
Consider the following program in C language:
#include
main()
{
int i;
int *pi = &i;
scanf("%d",pi);
printf("%d\n", i+5);
}

It prints the value by incrementing it by 5
Which one of the following statements is TRUE?

62.

What is the RDBMS terminology for a set of legal values that an attribute can have ?

Answer: Domain

Degree – Number of columns

Cardinality – Number of rows

63.

The _____ is generally used to group hosts based on the physical network topology.

Answer : Hub/Switch

64.

To build a mod-19 counter the number of flip-flops required is

Answer : 5

65.

Fixed budget is useless for comparison when the level of activity is _____

66.

System calls:

A system call is a way by which a program/process requests services of operating system (kernel). And a privileged instructions in an instruction that can be performed only in kernel/supervisor mode.

67.

Which of the following is not an activity listed in the statement of cash flows?

68.

The smallest integer that can be represented by an 8-bit number in 2's complement form is

Answer: -128

69.

What is the main difference between traps and interrupts?

Answer: Trap is a software generated interrupt.

70.

ATM uses a _____ packet size

Answer : 53 Octets 5 Header + 48 Payload

71.

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

72.

Consider the following C program.

```
#include
int f1 (void) ;
int f 2 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 **230**.

73.

Class D in network is used for

Answer: Multicasting

74.

What is the RDBMS technology for the number of attributes in a relation?

Answer : Degree

75.

All factory costs are treated as _____ while all administration costs are treated as _____

76.

1024 bit is equal to how many byte

Answer : 128

77.

Buffering is useful because

The buffer allows each device or process to operate without being held up by the other.

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

78.

Consider the following C code segment:

```
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);
}

```

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;

ANSWER: (A) 3 1

4 1

4 2

(B) 4 2

6 1

6 1

(C) 4 2

6 2

2 0

(D) 4 2

4 2

2 0

79.

Consider the following program:

```

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));
}

```

The value printed by this program is

ANSWER : 3

80.

_____ **RELATIONAL/CONCEPTUAL** _____ is the first schema to be designed when you are developing a DBMS

81.

Adjacent squares in a K-Map represents a

ANSWER: A group is a loose term for the enclosure containing adjacent square.

82.

If two interrupts, one of higher priority and other of lower priority occur simultaneously, then the service provided is for

Answer: Higher Priority

83.

An area of a business which collects costs is known as _____

84.

What will be the output of the following program?

```
#include
using namespace std;
```

```
class x {
public:
int a;
x();
};
x::x() { a=10; cout<
class b:public x {
public:
b();
};
b::b() { a=20; cout<
int main ()
{
b temp;
return 0;
}
```

Answer: 10 20

85.

An optimal scheduling algorithm in terms of minimizing the average waiting time of a given set of processes is _____.

Answer: Shortest Job First

86.

Minterms are arranged in map in a sequence of

Answer: Gray Code

87.

Which one of the following variables is not categorical?

Answer : Age of a person

88.

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) $(N - 1)^2$

89.

The servlet life cycle has the following cycle.

- 1. Servlet class is loaded.**
- 2. Servlet instance is created.**
- 3. init method is invoked.**

4. service method is invoked.

5. destroy method is invoked.

90.

In the IPv4 addressing format, the number of networks allowed under Class C addresses is

Answer: 2,097,152 (2^{21})

91.

What is data collection?

Answer: Data collection is the process of gathering and measuring information on targeted variables in an established systematic fashion, which then enables one to answer relevant questions and evaluate outcomes.

92.

When a program tries to access a page that is mapped in address space but not loaded in physical memory, then

Answer: Page fault occurs

93.

The main difference between JK and RS flip-flop is that

The main difference between a JK flip-flop and an SR flip-flop is that in the JK flip-flop, both inputs can be HIGH. When both the J and K inputs are HIGH, the Q output is *toggled*, which means that the output alternates between HIGH and LOW. Thereby the invalid condition which occurs in the SR flipflop is eliminated.

94.

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)

A) Select R.* from R, S where R.a=S.a

(B) Select distinct R.* from R, S where R.a=S.a

(C) Select R.* from R, (select distinct a from S) as S1 where R.a=S1.a

(D) Select R.* from R, S where R.a = S.a and is unique R

95.

Which algorithm chooses the page that has not been used for the longest period of time whenever the page required to be replaced?

Answer: Least Recently Used(LRU)

96.

Which of the following unit will choose to transform decimal number to binary code ?

A.Encoder

B.Decoder

C. Multiplexer

D. Counter

97.

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

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?

(A) It executes but does not give the correct result.

(B) It executes and gives the correct result.

(C) It generates an error because of pairwise comparison.

(D) It generates an error because the GROUP BY clause cannot be used with table joins in a subquery

98.

The schedule used to measure a respondent's opinion is _____

99.

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];
```

```
}
```

The missing loop condition is

Answer: b!=a

100.

ICMP is primarily used for

Answer: Error and diagnostics

101.

List of all the units of the population is called _____

102.

TCP manages a point-to-point and _____ connection for an application between two computers

Answer: Reliable

103.

The best index for exact match query is

104.

The embedded c program is converted by cross compiler to

Answer: Machine Language

105.

How many address bits are needed to select all memory locations in the 16K × 1 RAM?

[A]. 8

[B]. 10

[C]. 14 ✓

[D]. 16

106.

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) $wx + wy' + wz'$

107.

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

108.

The best sample is one that is _____

109.

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;
```

Answer: 20

110.

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?

Answer: Search/Selection?

111.

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. $(A + B)(A + C) = AC + B$

112. Which standard TCP port is assigned for contacting SSH servers?

a) port 21

b) port 22

c) port 23

d) port 24

113.

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 expression for Get Product_id, Product_name & quantity for all purchased products

114.

When an instruction is read from the memory, it is called

Answer: Instruction cycle (Also called Fetch-Decode-Execute Cycle)

115.

_____ research deals with practical problems

116.

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

(A) 1100 to 1300

(B) 800 to 1000

(C) 1400 to 1600

(D) 1500 to 1700

Explanation: Given that at the time of **Time Out**, Congestion Window Size is 32KB and **RTT** = 100ms,

When Time Out occurs, for the next round of Slow Start,

Threshold = size of congestion window / 2

Threshold = 16KB

Suppose we have a **slow start** ==>> 2KB|4KB|8KB|16KB (As the threshold is reached, Additive increase starts)

|18KB|20KB|22KB|24KB|26KB|28KB|30KB|32KB|18KB|20KB|22KB|24KB|26KB|28KB|30KB|32KB

Here | (vertical line) is representing **RTT** so the total number of vertical lines is 11 * 100ms ==>> **1100msec** and so this is the answer...

117.

Consider the following function written in the C programming language.

```
void foo(char *a) {  
    if (*a && *a != '\0')  
        putchar(*a);  
}
```

The output of the above function on input "ABCD EFGH" is

Actual gate Question: Consider the following function written in the C programming language :

```
void foo(char *a)  
{  
    if (*a && *a != '\0')  
    {  
        foo(a+1);  
        putchar(*a);  
    }  
}
```

The output of the above function on input "ABCD EFGH" is

- A. ABCD EFGH
- B. ABCD
- C. HGFE DCBA
- D. DCBA**

118.

The minimum number of NAND gates required to implement the Boolean function.

$A + AB' + AB'C$ is equal to

A. 0 (Zero)

B. 1

C. 4

D. 7

Explanation: $A(1+B'+B'C)$ which is equal To A

So No need For any NAND gate

119. 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

120. Creating a B Tree index for your database has to specify in _____.

a. DDL

b. SDL

c. VDL

d. TCL

121. UDP has a smaller overhead than TCP, especially when the total size of the messages is

Answer: SMALL

122.

A solution to the Dining Philosopher's problem which avoids Deadlock can be:

A. ensure that all philosophers pick up the left fork before the right fork

B. ensure that all philosophers pick up the right fork before the left fork

C. ensure that one particular philosopher picks up the left fork before the right fork, and that all other philosophers pick up the right fork before the left fork

D. None of the above

Answer: C

123.

Plan of study of a researcher is called the _____

124.

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.

$t0 = i * 1024$

$t1 = j * 32$

$t2 = k * 4$

$t3 = t1 + t0$

$t4 = t3 + t2$

$t5 = X[t4]$

Which one of the following statements about the source code for the C program is CORRECT?

A. X is declared as "int X[32] [32] [8]".

B. X is declared as "int X[4] [1024] [32]".

C. X is declared as "char X[4] [32] [8]".

D. X is declared as "char X[32] [16] [2]".

Answer: A

125. 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

(A) P and R only

(B) Q and R only

(C) Q and S only

(D) R and S only

Answer :C

Explanation:

- RSA – It is an algorithm used to **encrypt and decrypt** messages.
- SHA 1 – Secure Hash Algorithm 1, or SHA 1 is a **cryptographic hash function**. It produces a 160 bit (20 byte) hash value (message digest).
- DES – Data Encryption Standard, or DES is a **symmetric key algorithm for encryption** of electronic data.
- MD5 – Message Digest 5, or MD5 is a widely used **cryptographic hash function** that produces a 128 bit hash value (message digest).

126. The data manipulation language used in SQL is a,

(I) Procedural DML

(II) Non-Procedural DML

(III) Modification DML

(IV) Declarative DML

Answer : Procedural and Declarative

127.

A variable that is presumed to cause a change in another variable is called a/an _____

- a. categorical variable
- b. dependent variable
- c. independent variable**
- d. intervening variable

Intervening Variable: An **intervening variable** (sometimes called a **mediating variable**) is a hypothetical **variable** used to explain causal links between other **variables**. **Intervening variables** cannot be observed in an experiment (that's why they are hypothetical).

128.

The 16-bit 2's complement representation of an integer is 1111 1111 1111 0101, its decimal representation is

Answer : -11

129.

The OS of a computer may periodically collect all the free memory space to form contiguous block of free space. This is called

- A. Concatenation
- B. Garbage collection**
- C. Collision
- D. Dynamic Memory Allocation

130.

```
public class MyRunnable implements Runnable
{
    public void run()
    {
        // some code here
    }
}
```

which of these will create and start this thread?

- [A]. `new Runnable(MyRunnable).start();`
- [B]. `new Thread(MyRunnable).run();`
- [C]. `new Thread(new MyRunnable()).start();` ✓**
- [D]. `new MyRunnable().start();`

131.

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.

(A) 36

(B) 32

(C) 28

(D) 40

Explanation: A page table entry has following number of bits.

1 (valid bit) +

1 (dirty bit) +

3 (permission bits) +

x bits to store physical address space of a page.

Value of x = (Total bits in physical address) -

(Total bits for addressing within a page)

Since size of a page is 8 kilobytes, total bits needed within a page is 13.

So value of x = 32 - 13 = 19

Putting value of x, we get size of a page table entry =

1 + 1 + 3 + 19 = 24bits.

Number of page table entries

= (Page Table Size) / (An entry size)

= (24 megabytes / 24 bits)

= 2^{23}

Virtual address Size

= (Number of page table entries) * (Page Size)

= $2^{23} * 8$ kilobits

= 2^{36}

Therefore, length of virtual address space = 36

132.

DMA is useful for the operations

Answer: DMA is useful for transferring large quantities of data between memory and devices. It eliminates the need for the CPU to be involved in the transfer, allowing the transfer to complete more quickly and **the CPU to perform other tasks concurrently.**

133.

Data security threats include

- A. Hardware failure
- B. Privacy invasion**
- C. Fraudulent manipulation of data
- D. All of the above

134.

Open-ended questions provide primarily _____ data

135.

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) $\sigma_{\text{balance}} (\Pi_{\text{balance}} > 5000 (\text{account}))$
- (b) $\sigma_{\text{balance}} > 5000 (\Pi_{\text{balance}} (\text{account}))$
- (c) $\Pi_{\text{balance}} (\sigma_{\text{balance}} > 5000 (\text{account}))$**
- (d) $\Pi_{\text{balance}} > 5000 (\sigma_{\text{balance}} (\text{account}))$

136.

What does the code snippet given below do?

```
void fun1(struct node* head)
{
    if(head == NULL)
        return;

    fun1(head->next);
    printf("%d ", head->data);
}
```

Ans: Prints all nodes of linked list in reverse order

137.

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];
```

Answer: s[2].marks[4]

138.

Which of the following transport layer protocols is used to support electronic mail?

- (A) SMTP
- (B) IP
- (C) TCP**
- (D) UDP

139.

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?

- (A) X: P(a)P(b)P(c) Y: P(b)P(c)P(d) Z: P(c)P(d)P(a)
- (B) X: P(b)P(a)P(c) Y: P(b)P(c)P(d) Z: P(a)P(c)P(d)**
- (C) X: P(b)P(a)P(c) Y: P(c)P(b)P(d) Z: P(a)P(c)P(d)
- (D) X: P(a)P(b)P(c) Y: P(c)P(b)P(d) Z: P(c)P(d)P(a)

140.

Eight minterms will be used for

- A. three variables**
- B. four variables
- C. five variables
- D. six variables

141.

General Purpose Software which creates and manipulates database is

Answer: DBMS

142.

Which of these is not a method of data collection?

143.

The number of min-terms after minimizing the following Boolean expression is _____.
[D'+AB'+A'C+AC'D+A'C'D']

Answer: 1.

The end result of this gives us only one minterm = ABCD

hence, answer = 1

144.

Consider the following C code segment:

```
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);
}

```

What output will be generated by the given code segment?

Answer: **4 2**
6 2
2 0

145.

Consider a join (relation algebra operation) 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 $\text{size}(r(R)) < \text{size}(s(S))$, the join will have fewer number of disk block accesses if

(A) relation $r(R)$ is in the outer loop.

(B) relation $s(S)$ is in the outer loop.

(C) join selection factor between $r(R)$ and $s(S)$ is more than 0.5.

(D) join selection factor between $r(R)$ and $s(S)$ is less than 0.5.

Answer : A

146.

This topology requires multipoint connection

Answer: BUS

147.

_____ refers to the number of units to be chosen from the population

148.

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 s_____ number servicing of requests.

(A) 1

(B) 2

(C) 3

(D) 4

149.

Consider the following C program

```
#include
int main()
int i, j, k 0;
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 ____ **10** ____.

150.

1024 bit is equal to how many byte

Answer: 128

151.

Action research means _____

152.

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

Answer: Immediate Mode

153.

HTTP is _____ protocol

a) application layer

b) transport layer

c) network layer

d) none of the mentioned

154. Which of the following is NOT a superkey in a relational schema with attributes V,W,X,Y,Z and primary key V Y?

(A) V X Y Z

(B) V W X Z

(C) V W X Y

(D) V W X Y Z

Explanation: Super key = Candidate Key + other attributes. But option B does not include Y which is a part of PK or candidate key.

155.

Which of the following is not a part of instruction cycle?

Answer: stages of instruction cycle:

- a. **Fetch**
- b. **Decode**
- c. **Execute**
- d. **Derive effective address of the instruction**
- e. **All of these**

156.

A process executes the code

fork ();

fork ();

fork ();

The total number of child processes created is

(A) 3

(B) 4

(C) 7

(D) 8

Answer (C)

157.

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)

A) Select R.* from R, S where R.a=S.a

(B) Select distinct R.* from R, S where R.a=S.a

(C) Select R.* from R, (select distinct a from S) as S1 where R.a=S1.a

(D) Select R.* from R, S where R.a = S.a and is unique R

158.

One of the terms given below is defined as a bundle of meanings or characteristics associated with certain events, objects, conditions, situations, and the like

Concept

159.

The HTTP response message leaves out the requested object when _____ method is used

a) GET

b) POST

c) HEAD

d) PUT

160.

Consider the following C function.

```
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;
}
```

The return value of fun (5) is **51**

161.

PUBLIC KEY cryptography refers to encryption methods in which both the sender and receiver share the same key.

162.

After fetching the instruction from the memory, the binary code of the instruction goes to

Answer: MBR – Memory Buffer Register

163.

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];
}
```

The missing loop condition is

Answer: b!=a.

164.

Research questions are crucial because they will

165. The average time required to reach a storage location in memory and obtain its contents is called the

Answer: Access time

166.

The relation R={A,B,C,D,E,F} with FD A,B-> C, C-> D, C->E,F holds

167.

The relationship that exists within the same entity type is called as **recursive** relationship.

168.

Consider the following C function.

```
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;
}
```

}

The return value of fun (5) is ____ **51** ____

169.

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

170.

Flip-flops can be constructed with two

Answer: NAND

171.

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?

- (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

172.

Actuary is a person who _____

173.

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?

Ans: multivalued attribute

174.

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?

- (A) Shortest remaining time first**
- (B) Round-robin with time quantum less than the shortest CPU burst
- (C) Uniform random
- (D) Highest priority first with priority proportional to CPU burst length

Answer: (A)

175.

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;}  

```

Answer: (B) 6561

176.

Decimal digit in BCD can be represented by **4 INPUT LINES**

Answer: binary-coded decimal (BCD) is a class of binary encodings of decimal numbers where each decimal digit is represented by a fixed number of bits, usually four or eight.

177.

Insurable interest in a life insurance contract should be present _____

178.

Error correction and error detection happens in **DATA LINK** layer.

179.

Which of the following statements regarding RBI is not correct:

180.

___**ICMP**___ 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.

Answer: Internet Control messaging Protocol.

181.

KDD (Knowledge Discovery in Databases) is referred to,

ANSWER: broad process of finding knowledge in data, and emphasizes the "high-level" application of particular data mining methods

182.

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?

Answer: 216

183. The output of the following program is

```
main()  
{  
    int a = 5;  
    int b = 10;  
    cout << (a>b?a:b);  
}
```

Answer: 10

184.

Design procedure of combinational circuit involves

1. Determine required number of inputs and outputs from the specifications.
2. Derive the truth table for each of the outputs based on their relationships to the input.
3. Simplify the boolean expression for each output. Use Karnaugh Maps or Boolean algebra.
4. Draw a logic diagram that represents the simplified Boolean expression. Verify the design by analysing or simulating the circuit.

185.

The banking companies that are allowed to operate in a very limited geographical area, are known as _____

186.

_____ **DATA MODEL** _____ gives the concepts to describe the structure of the database.

187.

In dynamic routing mechanism the route changes in response to _____

(A) link cost changes

(B) time

(C) fragmentation size

(D) sequence order

188.

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

(A) 346

(B) 165

(C) 154

(D) 173

189.

In design procedure input output values are assigned with

190.

The Third stage in designing a database is when we analyze our tables more closely and create a _____ **RELATIONSHIP** _____ between tables.

191.

Majority of share capital in RBI is held by _____

192.

Mod-6 and mod-12 counters are most commonly used in

[A]. frequency counters

[B]. multiplexed displays

[C]. **digital clocks** ✓

[D]. power consumption meters

193.

A race condition occurs when

A. Two concurrent activities interact to cause a processing error

B. two users of the DBMS are interacting with different files at the same time

C. both (a) and (b)

D. All of the above

E. None of the above

194.

Multiplexing is used in _____

a) Packet switching

b) Circuit switching

c) Data switching

d) None of the mentioned

195.

The minimum number of page frames that must be allocated to a running process in a virtual memory environment is determined by

a) the instruction set architecture

b) page size

c) physical memory size

d) number of processes in memory

196.

Passing the request from one schema to another in DBMS architecture is called as _____

Answer: Mapping

197.

_____ is a set of networks sharing the same routing policy

Answer: Autonomous System

198.

IRDA is associated with _____

199.

Mod-6 and mod-12 counters are most commonly used in

Answer: Digital Clocks

200.

. 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

201.

Insurance companies collect a fixed amount from its customers at fixed intervals of time. What is it called?

Answer: premium

202.

A relation schema R is said to be in 4NF if for every MVD $x \twoheadrightarrow y$ that holds over R

A \twoheadrightarrow B is a trivial MVD

A is a superkey

203.

___ **Tunneling** ___, 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.

204.

What is a trap?

(A) External interrupt (B) Internal Interrupt.

(C) Software Interrupt (D) Error

Answer: A trap is an exception in a user process. It's caused by division by zero or invalid memory access.

205.

Congestion control and quality of service is qualities of the

Answer: ATM / FRAME RELAY????

206.

The ___ **XLAT** ___ translates a byte from one code to another code

A. XLAT

B. XCHNG

C. POP

D. PUSH

207.

In real time Operating System, which of the following is the most suitable scheduling scheme?

Answer: Preemptive Scheduling.

208.

Regional rural banks are:

209.

The Snapshot of a table is called as

Ans – View

210.

In Binary trees nodes with no successor are called

LEAF

211.

____ **TCP** ____ 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

212.

If every node u in G adjacent to every other node v in G , A graph is said to be

Answer: Complete

213.

A relation $R(a,b,c,d,e,f)$ with the FDs $\{ a \rightarrow b,c; c \rightarrow d, e, f \}$ satisfies ----- normal form at the most where a is the primary key.

Third Normal Form

214.

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

Answer: 31%

215.

Which category of banks is under dual control of Government and RBI?

216.

Which amongst the following refers to Absolute addressing mode

A. Ans - the address of the operand is inside the instruction

217.

A binary tree in which all the leaves are on the same level is called as:

Answer: Perfect binary tree

218.

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

1100-1300

219.
NOP instruction introduces

Delay

220.
On simple paging system with 2^{24} bytes of physical memory, 256 pages of logical address space, and a page size 2^{10} bytes, how many bytes are in a page frame?

2^{10} bytes,

221.
Course_Info{ Course_no, Sec_no, Offering_dept, Credit_hours, Course_level, Instructor_ssn, Semester, Year, Days_hours, Room_no, No_of_students }.

The Course_Info has following functional dependencies:

{Course_no} → {Offering_dept, Credit_hours, Course_level}

{Course_no, Sec_no, Semester, Year} → {Days_hours, Room_no, No_of_students, Instructor_ssn }

{Room_no, Days_hours, Semester, Year} → {Instructor_ssn, Course_no, Sec_no}

Find the keys of the relation

222.
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 _____

223.
Which of the following are sufficient conditions for deadlock?

1. mutual exclusion
The resources involved must be unshareable; otherwise, the processes would not be prevented from using the resource when necessary.
2. hold and wait or partial allocation
The processes must hold the resources they have already been allocated while waiting for other (requested) resources. If the process had to release its resources when a new resource or resources were requested, deadlock could not occur because the process would not prevent others from using resources that it controlled.
3. no pre-emption
The processes must not have resources taken away while that resource is being used. Otherwise, deadlock could not occur since the operating system could simply take enough resources from running processes to enable any process to finish.
4. resource waiting or circular wait

224.

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?

(B) 800

225.

Expand the acronym 'ADB'

226.

The addressing mode used in an instruction of the form ADD X Y, is **_DIRECT/ABSOLUTE_**.

227.

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:

pointer swizzling

228.

A binary tree T has 20 leaves. The number of nodes in T having two children is

(A) 18

(B) 19

(C) 17

(D) Any number between 10 and 20

229.

What happens when you push a new node onto a stack?

The new node is placed at the front of the linked list

230. 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

231.

Consider the following transaction involving two bank account x and y .

read (x) ; $x := x - 50$; write (x) ; read (y) ; $y := y + 50$; write (y)

The constraint that the sum of the accounts x and y should remain constant is that of

(A) Atomicity

(B) Consistency

(C) Isolation

(D) Durability

232.

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 _____

233.

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?

- A. Send a different source port number.
- B. Restart the virtual circuit.
- C. Decrease the sequence number.
- D. Decrease the window size.**

234.

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.

- (A) 36**
- (B) 32
- (C) 28
- (D) 40

235.

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**

236.

Which of the following information is not part of Process Control Block?

- a) CPU scheduling information
- b) CPU-stack pointer values
- c) CPU-timer information
- d) CPU- accumulator interrupt**

237.

The recurrence relation capturing the optimal execution time of the Towers 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) $T(n) = 2T(n - 1) + 1$**

238.

A personal account cannot be opened in _____

239.

For the IEEE 802.11 MAC protocol for wireless communication, which of the following statements is/are TRUE ?

I. At least three non-overlapping channels are available for transmissions.

II. The RTS-CTS mechanism is used for collision detection.

III. Unicast frames are ACKed.

(A) All I, II, and III

(B) I and III only

(C) II and III only

(D) II only

240.

_____ users work on canned transactions

Naïve or parametric end users

241.

X.25 Networks are _____ **Packet Switched wide area** _____ networks

242.

A banking product is an example of _____

243.

Partial Degree of multiprogramming is controlled by

A. CPU scheduler

B. context switching

C. long term scheduler

D. medium term scheduler

244.

The effective address of the following instruction is , MUL 5(R1,R2)

a) $5+R1+R2$

b) $5+(R1*R2)$

c) $5+[R1]+[R2]$.

d) $5*([R1]+[R2])$

245.

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?

A. r₁(x); r₂(x); w₁(x); r₃(x); w₂(x);

B. r₂(x); r₁(x); w₂(x); r₃(x); w₁(x);

- C. $r_3(x); r_2(x); r_1(x); w_2(x); w_1(x);$
D. $r_2(x); w_2(x); r_3(x); r_1(x); w_1(x);$

246.

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?

247.

A buying process starts when the buyer recognizes a _____

248.

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

249.

The effective address of the following instruction is , $MUL\ 5(R1, R2)$

- a) $5 + R1 + R2$
b) $5 + (R1 * R2)$
c) $5 + [R1] + [R2]$.
d) $5 * ([R1] + [R2])$

250.

Consider a schedule S_1 given below;

$R_1(A); W_1(A); R_2(B); R_2(A); R_1(B); W_2(A+B); W_1(B);$ where R_1 and W_1 are read and write operations of transaction T_1 and R_2 and W_2 are read and write operations of transaction T_2 . Which of the following is correct regarding schedule S_1 ?

- (a) S_1 is a serializable schedule
(b) A deadlock will occur if 2PL is used
(c) S_1 is a conflict serializable schedule
(d) S_1 is a view serializable schedule

251.

Consider the following function written the C programming language.

```
void foo (char * a ) {  
    if (* a & & * a != ' '){  
        putchar (*a);  
    }  
}
```

The output of the above function on input ?ABCD EFGH? Is

Answer: DCBA

252.

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

- a) dynamic condition
- b) race condition**
- c) essential condition
- d) critical condition

253.

State the type of multitasking supported by OS when process switched its state from 'Running' to 'Ready' due to scheduling act.

Answer: PREEMPTIVE

254.

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

255.

The degree of a leaf node is: **ZERO**

256.

_____ are products bought for further processing or for use in conducting a business

257.

End-to-end connectivity is provided from host-to-host in:

- A. Network layer
- B. Session layer
- C. Data link layer
- D. Transport layer**
- E. None of the above

258.

An index is clustered, if

- (A) it is on a set of fields that form a candidate key.
- (B) it is on a set of fields that include the primary key.

(C) the data records of the file are organized in the same order as the data entries of the index.

(D) the data records of the file are organized not in the same order as the data entries of the index.

259.

The protocol data unit (PDU) for the application layer in the Internet stack is

- (A) Segment
- (B) Datagram

(C) Message

(D) Frame

260.

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

261.

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?

(A) 200 KB and 300 KB

(B) 200 KB and 250 KB

(C) 250 KB and 300 KB

(D) 300 KB and 400 KB

262.

If actual performance exceeds the expected performance of the product, then the customer is

263. Creating a B Tree index for your database has to be specified in _____.

a. DDL

b. SDL

c. VDL

d. TCL

264.

The post order traversal of binary tree is DEBFCA. Find out the pre order traversal.

A. ABFCDE

B. ADBFEC

C. ABDECF

D. ABDCEF

265.

Error detection at the data link layer is achieved by?

[A] Bit stuffing

[B] Cyclic redundancy codes

[C] Hamming codes

[D] Equalization

266.

Which of the following is not a function of a DBA?

A. Network Maintenance

- B. Routine maintenance
- C. Schema Definition
- D. Authorization for data access

267.

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) 5
- (C) 6
- (D) 7

268.

What is a trap?

Answer: A trap is an exception in a user process. It's caused by division by zero or invalid memory access. It is a software generated interrupt.

269.

What is the postfix expression for the following infix expression?

Infix = $a + b \% c > d$

Answer: $a \ b + c \% d \ >$

270.

The promotion "P" of marketing mix is also known as _____

271.

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 size of the per-process page table is _____ megabytes.

- (A) 384
- (B) 48
- (C) 192
- (D) 96

272.

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

273.
Loss in signal power as light travels down the fiber is called?

- A. attenuation**
- B. propagation
- C. scattering
- D. interruption
- E. None of the above

274.
Passing the request from one schema to another in DBMS architecture is called as
____ **MAPPING** ____

275.
A change in an individual's behaviour prompted by information and experience refers to which one of the following concept?

276.
A binary tree T has 20 leaves. The number of nodes in T having two children is

- (A) 18**
- (B) 19**
- (C) 17**
- (D) Any number between 10 and 20**

277.
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**

278.
Consider the 3 process, P1, P2 and P3 shown in the table.

Process Arrival time Time units Required

P1 0 5

P2 1 7

P3 3 4

The completion order of the 3 processes under the policies FCFS and RR2 (round robin scheduling) with CPU quantum of 2 time units are

(A)

FCFS: P1, P2, P3

RR2: P1, P2, P3

(B)

FCFS: P1, P3, P2

RR2: P1, P3, P2

(C)

FCFS: P1, P2, P3

RR2: P1, P3, P2

(D)

FCFS: P1, P3, P2

RR2: P1, P2, P3

279.

Which of the following is NOT a superkey in a relational schema with attributes V,W,X,Y,Z and primary key V Y?

(A) V X Y Z

(B) V W X Z

(C) V W X Y

(D) V W X Y Z

280. Which of the following is example of in-place algorithm?

Ans: Heap Sort , Selection Sort, Bubble Sort , insertion sort, shell sort.

281.

In OSI model dialogue control and token management are responsibilities of ?

Network layer

Session Layer

Transport Layer

None of above

282.

A person's _____ consists of all the groups that have a direct (face-to-face) or indirect influence on his/her attitudes or behaviour

283.

The promotion strategy that uses sales force to market the products is known as _____

284.

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?

- (A) This algorithm is equivalent to the first-come-first-serve algorithm
- (B) This algorithm is equivalent to the round-robin algorithm.**
- (C) This algorithm is equivalent to the shortest-job-first algorithm..
- (D) This algorithm is equivalent to the shortest-remaining-time-first algorithm

285.

Which protocol does Ping use?

Answer: ICMP – Internet Control Message Protocol

286.

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

Answer: Outer join.

287.

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. $O(1)$

288.

The address to the next instruction lies in

Answer: Program Counter

289.

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.

290.

Wholesaling does not include which of the following services?

291.

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

292.

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 ?

Answer: $O(1)$

293.

What is the unique characteristic of RAID 6 ?

a) Distributed Parity

b) Striping

c) Two independent distributed parity

d) Mirroring

294.

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

295.

On simple paging system with 2^{24} bytes of physical memory, 256 pages of logical address space, and a page size 2^{10} bytes, how many bytes are in a page frame?

Ans:: Page frame size is 2^{10} bytes.

296.

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 ?

(A) 50 bytes

(B) 100 bytes

(C) 200 bytes

(D) None of these

Explanation: For CSMA/CD Protocol formula of minimum packet size

$$L \geq 2 \times T_p \times B$$

$L \geq 200$ bits which is **$L \geq 25$ bytes**

297.

The data manipulation language used in SQL is a,

(I) Procedural DML

(II) Non-Procedural DML

(III) Modification DML
(IV) Declarative DML

Answer: (1) and (4)

298.

The _____ is practiced most aggressively with unsought goods, goods that buyers normally do not think of buying, such as insurance, encyclopedias, and funeral plots.

Answer: b. Selling concept

299.

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

300.

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 ?

Answer: 800

301.

Deceptive pricing is also referred to as _____

302.

The time factor when determining the efficiency of algorithm 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

303.

Consider the following pseudo code fragment:

```
printf ("Hello");
```

```
if(!fork( ))
```

```
printf("World");
```

Which of the following is the output of the code fragment?

Answer: Hello Hello World World

304.

Having clause in SQL occurs with

The HAVING clause should appear before an INTO clause; otherwise, a syntax error occurs.

305.

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.**

306.

The address resolution protocol (ARP) is used for

- (a) Finding the IP address from the DNS
- (b) Finding the IP address of the default gateway
- (c) Finding the IP address that corresponds to a MAC address
- (d) Finding the MAC address that corresponds to an IP address**

307.

One that is not type of flipflop is

Types of Flip-Flops

- RS flip-flop
- JK flip-flop
- D flip-flop
- T flip-flop

308.

If a node having two children is deleted from a BST, it is replaced by its

- a) In-order predecessor
- b) In-order successor**
- c) Pre-order predecessor
- d) None

309.

_____ is the want for a specific product backed by the ability to pay

Next

314.

A company is in the _____ stage of the new product development process when the company develops the concept into a commercially viable physical product

315.

An organization has a class B network and wishes to form subnets for 64 departments. The subnet mask would be

- (a) 255.255.0.0
- (b) 255.255.64.0
- (c) 255.255.128.0
- (d) 255.255.252.0**

316.

R right outer join S on a=b gives

317.

Which of the process transition is invalid?

1. Run Ready
2. Suspend wait Suspend ready
3. **Wait/ Block Run**
4. Run Terminate

318.

The process in which of the following states will be in secondary memory?

31

The number of counters that are present in the programmable timer device 8254 is

- a) 1
- b) 2
- c) 3**
- d) 4

Explanation: There are three counters that can be used as either counters or delay generators.

320.

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 packet contains a header of 3 bytes, then the optimum packet size is

- (a) 4
- (b) 6
- (c) 7
- (d) 9**

321.

Why is market segmentation primarily undertaken?

322.

_____ **DATA MODEL** _____ gives the concepts to describe the structure of the database.

323.

Identify the sorting technique that supports divide and conquer strategy and has (n^2) complexity in worst case

-
- a. Bubble sort
 - b. Insertion sort
 - c. Quick sort**
 - d. All of above

Answer: Quick Sort

324.

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 ?

(A) 20

(B) 40

(C) 160

(D) 320

Answer (B)

325.

If a firm emphasizes its product's benefits, rather than its product's attributes, it is oriented towards

326.

Given the basic ER and relational models, which of the following is INCORRECT?

A. An attribute of an entity can have more than one value

B. An attribute of an entity can be composite

C. In a row of a relational table, an attribute can have more than one value

D. In a row of a relational table, an attribute can have exactly one value or a NULL value

327.

The searching technique that takes $O(1)$ time to find a data is

Answer: Hashing

328.

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

A.25

B.30

C.40

D.60

329.

The data bus buffer is controlled by

a) control word register

b) read/write control logic

c) data bus

d) none

330.

Which of the following is not a conversion function in SQL?

331.

Which behavioural science discipline contributes to Organizational Behavior 's understanding of group decision-making processes?

332.

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?

- A. C1 and C2 both assume they are on the same network
- B. C2 assumes C1 is on same network, but C1 assumes C2 is on a different network
- C. C1 assumes C2 is on same network, but C2 assumes C1 is on a different network**
- D. C1 and C2 both assume they are on different networks.

333.

In control word register, if SC1=0 and SC0=1, then the counter selected is

- a) counter 0
- b) counter 1**
- c) counter 2
- d) none

334.

Information about a process is maintained in a _____.

1 Stack

2 Translation Lookaside Buffer

3 Process Control Block

4 Program Control Block

335.

AVL trees have a faster _____

- A. Insertion
- B. Deletion
- C. Updation
- D. Retrival**

336.

The time required in worst case for search operation in binary tree is

Answer: O(n).

337.

Which of the following is shared between all of the threads in a process? Assume a kernel level thread implementation

Answer: File Descriptors

338.

The communication that is used by managers to assign goals, point out problems that need attention and provide job instructions is called as _____

339.

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

340.

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 ?

(A) 12

(B) 14

(C) 16

(D) 18

341.

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

342.

Identify the data structure which allows deletions at both ends of the list but insertion at only one end

a. Input-restricted deque

b. Output-restricted deque

c. Priority queues

d. None of above

343.

When an instruction is read from the memory, it is called

Answer: Instruction cycle (Also called Fetch-Decode-Execute Cycle)

344.

Experiments performed by Ivan Pavlov led to what theory?

345.

Which of the following is not true of virtual memory?

Ans: It requires the use of a disk or other secondary storage.(Actually it does not require).

346.

(A) 500 metres of cable.

(B) 200 metres of cable.

(C) 20 metres of cable.

(D) 50 metres of cable.

Answer (C)

347.

To change the access path programs are categorized under ____**PHYSICAL**____ data independence.

348.

What are the desirable properties of a transaction?

Atomicity.

Consistency.

Isolation.

Durability.

349.

Job analysis provides information used for writing _____

350.

A Boolean function may be transformed into **Logical Diagram**

351.

The average time required to reach a storage location in memory and obtain its contents is called the

Answer: Access time

352.

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?

(A) 62 subnets and 262142 hosts.

(B) 64 subnets and 262142 hosts.

(C) 62 subnets and 1022 hosts.

(D) 64 subnets and 1024 hosts.

Maximum number of subnets = $2^6 - 2 = 62$.

Maximum number of hosts is $2^{10}-2 = 1022$.

353.

The time required in worst case for search operation in binary tree is

Answer: $O(n)$.

354.

Shift registers are used for

Shift registers are commonly used in converters that translate parallel data to serial data, or vice-versa.

1. shifting
2. rotating
3. adding

4. both a and b

355.

In the slow start phase of TCP congestion control algorithm, the size of the congestion window

- (A) does not increase
- (B) increases linearly
- (C) increases quadratically
- (D) increases exponentially**

356.

_____ is the process of deciding how to fill the company's most important executive positions

357.

Operating System

1. Assume that C is a Counting Semaphore initialized to value 10. Consider the following program segment:

$P(C); V(C); P(C); P(C); P(C); V(C); V(C)$

$V(C); V(C); V(C); P(C); V(C); V(C); P(C)$

What is the value of C ?

$C=10$

there are 6 wait and 8 signal operation

wait operation reduce count by 1 and signal increase count by 1 in general

so $10-6+8=12$

358.

If a transaction T has obtained an exclusive lock on item Q , then T can

Answer: both read and write Q

359.

To represent hierarchical relationship between elements, which data structure is suitable?

- a. Deque
- b. Priority
- c. Tree**
- d. All of above

360.

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

- (a) (4, 7) **(b) (7, 4)** (c) (8, 3) (d) (3, 8)

361.

Two variables will be represented by

- 1. eight minterms
- 2. six minterms
- 3. five minterms

4. four minterms

362.

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

363.

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**

364.

Which of these does not belong to Maslow's Hierarchy Need Theory?

365.

Mutual exclusion problem occurs between

- Two disjoint process that do not interact
- Process sharing same resources

- **Process not sharing same resources**
- None of these

366.

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?

- (A) 1.6 seconds
- (B) 2 seconds**
- (C) 5 seconds
- (D) 8 seconds

367.

The FD $A \rightarrow B$, $DB \rightarrow C$ implies

368.

The base (or radix) of the number system such that the equation $312/20=13.1$ holds is

- (A) 3**
- (B) 4**
- (C) 5**
- (D) 6**

369.

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

A. Cannot have more than 19 nodes

B. Has exactly 19 nodes

C.Has exactly 17 nodes

D.Cannot have more than 19 nodes

A strictly binary tree with 'n' leaves must have $(2n - 1)$ nodes

370.

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 _____.

- A. **the time its takes for the platter to make a full rotation**
- B. the time it takes for the read-write head to move into position over the appropriate track
- C. the time it takes for the platter to rotate the correct sector under the head
- D. none of the above

371.

“Doing an activity or behaviour voluntarily for its own sake, for the inherent satisfaction and pleasure derived from participation” well defines:

372.

Which type of managers takes less time to make their decisions and less information in making their choices?

373.

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

374.

For which one of the following reason: does Internet Protocol (IP) use the time-to-live (TTL) field in the IP datagram header?

(A) Ensure packets reach destination within that time

(B) Discard packets that reach later than that time

(C) Prevent packets from looping indefinitely

(D) Limit the time for which a packet gets queued in intermediate routers.

375.

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?

376.

The recurrence relation that arises in relation with the complexity of binary search is

A. $T(n) = 2T(n/2) + k$, k is a constant

B. **$T(n) = T(n/2) + k$, k is a constant**

C. $T(n) = T(n/2) + \log n$

D. $T(n) = T(n/2) + n$

377.

A 20-bit address bus allows access to a memory of capacity

Answer: 1MB

$2^{20} = 1048576$

378.

The algorithm design technique used in the quick sort algorithm is

Dynamic programming

Backtracking

Divide and conquer

Greedy method

379.

Which of the following assertions is false about the internet Protocol (IP) ?

- (A) It is possible for a computer to have multiple IP addresses
- (B) IP packets from the same source to the same destination can take different routes in the network
- (C) IP ensures that a packet is discarded if it is unable to reach its destination within a given number of hops
- (D) 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**

In computer networking, **source routing**, also called **path addressing**, allows a sender of a packet to partially or completely specify the route of the packet takes through the network.

380.

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

- a) Time sharing**
- b) time out
- c) time domain
- d) FIFO
- e) None of the above

381.

If the offset of the operand is stored in one of the index registers, then it is

Answer: indexed addressing mode

382.

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

383.

Organizational democracy requires _____ style of management

384.

If Human voice is required to be digitized what will be the bit rate at 16 bits per sample?

Therefore, the bit rate can be calculated by calculating the sample rate first.

Sampling rate = $4000 \times 2 = 8000$ samples/s

Considering the bit rate to be 16 bits per sample,

The total bit rate will be = $8000 \times 16 = 128,000$ bps = **128 kbps.**

Therefore, the bit rate needed to digitize human voice is **128 kbps.**

385.

The operating system of a computer serves as a software interface between the user and the _____

A. hardware B. peripheral C. memory D. screen

386.

The data manipulation language used in SQL is a,

(I) Procedural DML (II) Non-Procedural DML (III) Modification DML **(IV) Declarative DML**

387.

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

(A) the shortest path between every pair of vertices.

(B) the shortest path from W to every vertex in the graph.

(C) the shortest paths from W to only those nodes that are leaves of T.

(D) the longest path in the graph

388.

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

389.

Which of the following requires the listener to pay reasonably close attention to the speaker?

390.

A full binary tree with n leaves contains

A. n^2 nodes

B. $\log_2 n$ nodes

C. $2n-1$ nodes

D. $2n$ nodes

391.

Which of the following is not a function of a DBA?

A. Network Maintenance

B. Routine maintenance

C. Schema Definition

D. Authorization for data access

392.

The collection of processes on the disk that is waiting to be brought into memory for execution forms the _____

1 Ready queue

2 Device queue

3 Input queue

4 Priority queue

393.

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

394.

_____ is the variable reward granted to employees as per their performance

395.

Which of the following is not a data copy/transfer instruction?

a)MOV

b) PUSH

c) DAS - Decimal Adjust after Subtraction

d) POP

396.

The unique characteristics that a learning organization possesses is that _____

397.

The complexity of multiplying two matrices of order $m \times n$ and $n \times p$ is

A. **mnp**

B. mp

C. mn

D. np

398.

Which of these multiplexing techniques is digital for combining several low -rate channels into one high-rate one

399.

The part of the operating system that coordinates the activities of other program is called the

Answer: Control program

400.

In DMA transfers, the required signals and addresses are given by the_____

a) Processor

b) Device drivers

c) DMA controllers

d) The program itself

Explanation: The DMA controller acts like a processor for DMA transfers and overlooks the entire process.

401.

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?

402.

A binary tree T has 20 leaves. The number of nodes in T having two children is

(A) 18

(B) 19

(C) 17

(D) Any number between 10 and 20

403.

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

Answer: 3

404.

Assume relations R and S with the schemas R (A, B, C) and S (B, D). Which of the following is equivalent to $r \bowtie s$?

ABCD

405.

Which of these is an off the job training?

Off-the-job training occurs when employees are taken away from their place of work to be trained. Common methods of off-the-job training include: Day release (employee takes time off work to attend a local college or training centre) Distance learning / evening classes.

406.

What are the three phases in virtual circuit switching?

The three phases in virtual circuit switching are setup, data transfer, and teardown

407.

Switching the CPU to another Process requires saving state of the old process and loading new process state is called as _____.

ANSWER: Context Switch

408.

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?

(A) 200 KB and 300 KB

(B) 200 KB and 250 KB

(C) 250 KB and 300 KB

(D) 300 KB and 400 KB

409.

Which of the following asymptotic notation is the worst among all?

a. $O(n+9378)$

b. $O(n^3)$

c. $nO(1)$

d. $2O(n)$

410.

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?

Answer : 1000

411.

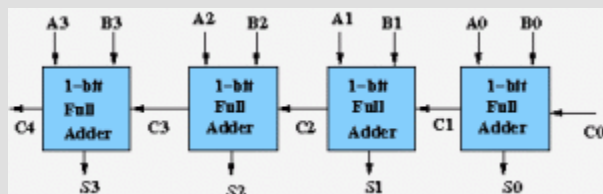
Which method is used to assess an organization's training needs?

Training Need Analysis

412.

A half adder is implemented with XOR and AND gates. A full adder is implemented with two half adders and one OR gate. The propagation delay of an XOR gate is twice that of an AND/OR gate. The propagation delay of an AND/OR gate is 1.2 microseconds. A 4-bit ripple-carry binary adder is implemented by using four full adders. The total propagation time of this 4-bit binary adder in microseconds is _____.

A Ripple Carry Adder allows to add two n-bit numbers. It uses half and full adders. Following diagram shows a ripple adder using full adders.



Let us first calculate propagation delay of a single 1 bit full adder.

Propagation Delay by n bit full adder is $(2n + 2)$ gate delays.
[See [this](#) for formula].

Here $n = 1$, so total delay of a 1 bit full adder is $(2 + 2) * 1.2 = 4.8$ ms

Delay of 4 full adders is = $4 * 4.8 = 19.2 \text{ ms}$

413.

Which of the following is a bit rate of an 8-PSK signal having 2500 Hz bandwidth ?

Transmission is in half-duplex mode. For PSK the baud rate is the same as the bandwidth, which means the baud rate is 5000. But in 8-PSK the bit rate is 3 times the baud rate, so the bit rate is **15,000 bps**.

414.

Virtual memory is _____.

An illusion of extremely large main memory

415.

Given the IP address 201.14.78.65 and the subnet mask 255.255.255.224. What is the subnet address ?

Answer : 201.14.78.64

At every router basically we have 3 entries in a routing table

1. Network Id / Subnet address
2. Subnet Mask
- 3 .Interface

So with the help of these we can figure out where to send a packet.

IP address 201.14.78.65 subset mask 255.255.255.224

Subnet Mask	11111111.11111111.11111111.11100000
IP address	11001001.00001110.01001110.01000001
Subnet address	11001001.00001110.01001110.01000000
	201 . 14 . 78 . 64

It is a Bitwise ANDing in above operation.

416.

Which of the following operator in SQL would produce the following result if applied between two relations Employee and Department?

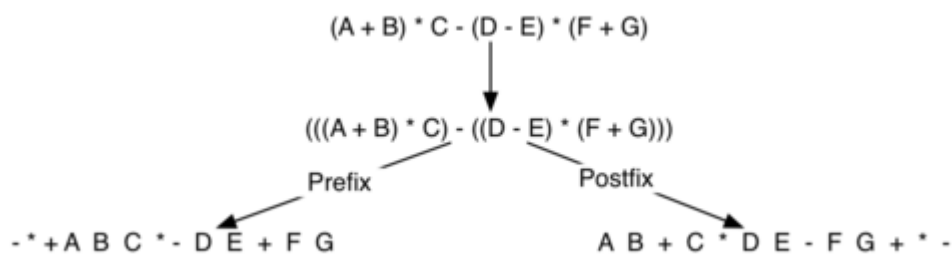
Eno	ENAME	DeptNo	DName
111	Kumar	100	Sales

222	Steve	200	Finance
Null	Null	300	Admn
244	Meera	400	Mktg

- (a) **Outer Join** (b) Natural Join
(c) Cartesian Join (d) Projection Join

417.

The postfix expression of the given infix expression $a+b*c+(d*e+f)*g$ is



418.

The truth table

X Y f(X,Y)

0 0 0

0 1 0

1 0 1

1 1 1

represents the Boolean function **X**

419.

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?

the data transfer rate is $25K / 0.011 = 2, 250Kbytes/second$

420.

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

Total 4.

421.

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.

(A) 1

(B) 2

(C) 3

(D) 4

422.

For non-negative functions, $f(n)$ and $g(n)$, $f(n)$ is Θ of $g(n)$ if and only if

$$\max(f(n), g(n)) = \Theta(f(n) + g(n))$$

423.

If the data unit is 111111 and the divisor is 1010. In CRC method, what is the dividend at the transmission before division ?

If divisor is n bit long then we add $(n-1)$ no of 0's in the data unit before division

so here divisor is 1010 hence 3 0's are added in data unit so **ans will be 11111000** i.e C

424.

The output after second iteration of the sorting technique is given below. Identify the technique used 23 45 78 8 32 56

MERGE SORT

425.

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?

Number of records in file = 16384

Record size = 32 bytes

Key Size = 6 bytes

Block Size on file system = 1024 bytes

Size of Block Pointer = 10 bytes

Size of a record or index Entry = 10 + 6 = 16

$$\begin{aligned}
 \text{Number of blocks in first level} &= (\text{Number of records in file}) / \\
 &\quad (\text{Disk Block Size}) \\
 &= (16384 * 16) / (1024) \\
 &= 16 * 16 \\
 &= 256
 \end{aligned}$$

In second level, there will be $256 * 16$ entries.

$$\begin{aligned}
 \text{Number of blocks in second level} &= (\text{Number of entries}) / \\
 &\quad (\text{Block Size}) \\
 &= (256 * 16) / 1024 \\
 &= 4
 \end{aligned}$$

Answer : $256+4 = 260$

426.

which type of EM waves are used for unicast communication such as cellular telephones, satellite networks and wireless LANS.

Radio waves!

427.

_____ register keeps track of the instructions stored in program stored in memory.

. **PC (Program Counter)**

428.

How many address bits are needed to select all memory locations in the $16K \times 1$ RAM?

The size of the memory is $N \times M$

where N is the address lines and M is word length
no of registers/memory location required is 2^N

Given memory capacity is 16k

thus $2^N = 16K$

1K=1024 memory locations

thus $16k = 16 * 1024 = 16384$

now $2^N = 16384$

After factorising 16384 by 2 we ll get N AS 14

SO ADDRESS LINE REQUIRED IS 14.

429.

1024 bit is equal to how many byte = **128 bytes**

430.

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

ANS: time sharing

431.

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?

432.

A method which creates the problem of secondary clustering is

QUADRATIC PROBING

433.

In stop and wait ARQ, the sequence numbers are generated using

Maximum sequence number in GBN is same as window size.

For sequence bits = n, number of sequence numbers = 2^n and window size = $2^n - 1$

Consider n = 3, sequence numbers will be $2^3 = 8$ (i.e. from 0 - 7)

and maximum window size = $2^3 - 1 = 7$ i.e window will carry frames from 0 to 6 which are 7 in number.

Now, for sender window = 5

number of sequence bits needed = $\text{ceil}(\log_2(1 + \text{window size})) = 3$

So, sequence numbers generated would be 0 to 7 but window will carry frames from 0 to 4 which is 5 in number (same as window size)

434.

How many ways are present in 4-way set associative cache of 16 sets?

Number of sets = Cache memory / (set associativity * cache block size)

$$= 256\text{KB} / (4 * 16 \text{ B})$$

$$= \mathbf{4096}$$

435.

Find the time complexity of given code snippet

```
for(int i=1;i<=n;i++)  
    for(int j=1;j<=n;j*=2)  
        Printf("*");
```

$O(n \log n)$ Time Complexity of a loop is considered as $O(n \log n)$ if the loop variables is divided / multiplied by a constant amount.

436.

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?

437.

Which of these is true for go-back-N protocol, if m is the size of sequence number field

438.

Mac Operating system is developed by which company

Apple Inc.

439.

In the running state

440.

```
void Function(int n)
{
    int i, count = 0;;
    for(i=1; i*i<=n; i++)
        count++;
}
```

The time complexity of the above code snippet is **$O(\sqrt{n})$** .

441.

Consider the entities customer (customer-name, customer-city, customer-street) and account (account-no, balance) with following relationship

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?

442.

To guarantee the detection of up to s errors in all cases, the minimum Hamming distance in a block code must be **$S+1$**

443.

RS flip-flops are also called

1. RS latch

2 SR latch

3 TS latch

4 ST latch

444.

Consider this binary search tree:

```
      14
     /  \
    2   16
```

```

  /\
 1 5
  /
 4

```

Suppose we remove the root, replacing it with something from the left - **5**

445.

The 1-address instructions for $a = b * c + d$ is

446.

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**

447.

The conjunctive selection operation $\sigma_{\theta_1 \wedge \theta_2}(E)$ is equivalent to _____

448.

Which of the following is not used for synchronization?

Banker's ALgorithm

449.

What is maximum throughput for slotted ALOHA ?

0.5/e for pure aloha and 1/e for slotted.

450.

Which of the following concurrency control mechanisms insist unlocking of all read and write locks of transactions at the end of commit?

Answer: Rigorous 2 Phase Locking

451.

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

Answer: 67

452.

The number of inputs, minterms in full adder is

Answer : 3,

453.

The major difference between a moore and mealy machine is that

They differ only in the way the output is generated. In the Mealy model, the output is a function of both the present state and the input. In the Moore model, the output is a function of only the present state. ..

454.

The process of analyzing the given relation schemas based on their functional dependencies is known as

Normalization

455.

The main function of dispatcher is:

The main function of the dispatcher (the portion of the process scheduler) is assigning ready process to the CPU.

456.

A complex low pass signal has a bandwidth of 100kHz. What is the minimum sampling rate for this signal

Answer: 200000 samples (2 times the bandwidth)

457.

Which of the following sorting algorithms has the lowest worst-case complexity?

Merge Sort

458.

What is the difference between CSMA/CD and ALOHA?

Main difference between Aloha and CSMA is that Aloha protocol does not try to detect whether the channel is free before transmitting but the CSMA protocol verifies that the channel is free before transmitting data.

459.

X=1010100 and Y=1000011 using 2's complement X-Y is

Answer: 10001

460.

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?

ANSWER: $q \leq ((t - ns) / (n - 1))$

461.

Which one of the following is the recurrence equation for the worst case time complexity of the Quicksort algorithm for sorting n ($n \geq 2$) numbers? In the recurrence equations given in the options below, c is a constant.

$T(n) = T(n - 1) + T(0) + cn$

462.

What operator performs pattern matching?

Answer: LIKE

463.

Suppose T is a binary tree with 14 nodes. What is the minimum possible depth of T?

Answer: 3

464.

What is the content of Stack Pointer (SP)?

The **Stack Pointer** is used to indicate where the next value to be removed from the **stack** should be taken from.

465.

Identify the minimal key for relational scheme R(A, B, C, D, E) with functional dependencies $F = \{A \rightarrow B, B \rightarrow C, AC \rightarrow D\}$

466.

A heap memory area is used to store the

467.

If user A wants to send an encrypted message to user B. The plain text of A is encrypted with the _____.

Answer: Public Key of User B

468.

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 flip flops

469.

For an undirected graph with n vertices and e edges, the sum of the degree of each vertex is equal to

Answer : 2e

470.

Programs tend to make memory accesses that are in proximity of previous access this is called **spatial locality**

471.

_____ scheduler selects the jobs from the pool of jobs and loads into the ready queue.

Long Term Scheduler

472.

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 **Time required to merge two sorted lists of size m and n,**

Third Normal Form

473.

Mnemonic codes and variable names are used in

Assembly Language

474.

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 - $O(n \log m)$

475.

What happens to destination address in the header of a packet in a datagram network ?

476.

_____ mechanism is used for converting a weak entity set into strong entity set in entity-relationship diagram

Adding suitable attributes

477.

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.FCFS

2. SSTF

3. SCAN

4.. C-SCAN

478.

_____ register keeps track of the instructions stored in program stored in memory.

Program Counter

479.

Bayonet-Neill-Concelman(BNC) connectors are used with which type of cables

Coaxial Cable

480.

Which of the following disk seek algorithms has the most variability in response time?

1. FCFS

2. SSTF

3. SCAN

4. C-SCAN

481.

What data structure is used for depth first traversal of a graph?

Stack

482.

Division operation is ideally suited to handle queries of the type:

Division identify the attribute values from relation that are found to be paired with all of the values from the other relation.

Customers who have no account in any of the branches in Delhi.

Customers who have an account at all branches in Delhi.

Customers who have an account in atleast one branch in Delhi.

Customers who have only joint account in any one branch in Delhi

483.

A clustering index is created when _____.

Foreign key ordered / No Key Ordered

484.

In TDM Data rate management is done by which of these strategies

- A. Multilevel multiplexing
- B. Multi-slot allocation
- C. Pulse stuffing

D. all of the above

485.

Graph traversal is different from a tree traversal, because

486.

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 (Answer: A, C & D)**

487.

One operation that is not given by magnitude comparator

- A. equal

- B. less
- C. greater
- D. addition**

488. Supervisor call

489.

Re-balancing of AVL tree costs

490.

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 ____ .

Answer: 50

491.

After fetching the instruction from the memory, the binary code of the instruction goes to

Answer: MBR – Memory Buffer Register

492.

Which of these is correct for synchronous Time Division Multiplexing

- A. Data rate of link is n times faster and the unit duration is n times longer
- B. Data rate of link is n times slower and the unit duration is n times shorter
- C. Data rate of link is n times slower and the unit duration is n times longer

D. Data rate of link is n times faster and the unit duration is n times shorter

493.

In communication satellite, multiple repeaters are known as?

Transponders

494.

Table that is not a part of asynchronous analysis procedure

- A. transition table
- B. state table

C. flow table

D. excitation table

495.

This Key Uniquely Identifies Each Record

Primary Key

496.

Paging suffer from

Internal Fragmentation

Paging suffers from internal fragmentation and segmentation suffers from external fragmentation.

497.

How many swaps are required to sort the given array using bubble sort - { 2, 5, 1, 3, 4 }

498.

Error detection at the data link layer is achieved by?

Cyclic Redundancy Code

499.

The O notation in asymptotic evaluation represents

he Big O notation defines an upper bound of an algorithm

500.

Which of the following provides interface (UI) between user and OS

Shell

501.

_____ register keeps track of the instructions stored in program stored in memory.

Program Counter

502.

Which of the following is not a function of a DBA?

Network Maintenance

503.

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?

Y and Z are candidate Keys of R

504.

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

Shell is a UNIX term for the interactive user interface with an operating system

505.

Baud means?

1. a unit of transmission speed equal to the number of times a signal changes state per second. For signals with only two possible states one baud is equivalent to one bit per second.

506.

A group of bits that tell the computer to perform a specific operation is known as

Instruction Code

507.

Recursion uses more memory space than iteration because

Every Recursive call has to be stored

508.

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:

509.

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

Answer: 4

510.

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?

10 Mbps

511.

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?

5 Processes

512.

The constraint ?primary key cannot be null? is called as?

Not Null COnstraint

513.

In Multi-Processing Operating Systems:

Maximum Utilization of CPU can be achieved

514.

A circuit produces 1's complement of the input word, one application is binary subtraction. It is called

(A) Logic gate

(B) Register

(C) Multiplexer

(D) BCD converter

515.

A station in a network forwards incoming packets by placing them on its shortest output queue. What routing algorithm is being used?

Hot Potato Routing

516.

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?

Answer: 512

517.

The cartesian product ,followed by select is equivalent to

Answer :Join

518.

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) \$\$\$

b) \$\$

c) NULL

d) error

519.

The Internet Control Message Protocol (ICMP)

520.

In a digital counter circuit feedback loop is introduced to

A:improve distortion

B:improve stability

C:reduce the number of input pulses to reset the counter

D:synchronous input and output pulses

521.

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

- (A) $\text{OPTIMAL} < \text{LRU} < \text{FIFO}$
- (B) $\text{OPTIMAL} < \text{FIFO} < \text{LRU}$
- (C) $\text{OPTIMAL} = \text{LRU}$
- (D) $\text{OPTIMAL} = \text{FIFO}$

522.

A data dictionary does not provide information about

Answer : Size of storage disk.

523.

How many illegitimate states has synchronous mod-6 counter ?

A.3 (Answer)

- B.2
- C.1
- D.6

524.

For the array (77, 62, 114, 80, 9, 30, 99), write the order of the elements after two passes using the Radix sort

114, 30, 62, 77, 9, 99

525.

Which of the following technique is used for fragment?

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

526.

Which of the following RDBMS does not incorporate relational algebra

527.

Which scheduling policy is most suitable for a time-shared operating system?

Preemptive scheduling

528.

When you ping the loopback address, a packet is sent where?

Answer: Down through the layers of IP architecture and then up the layers again

529.

Round robin scheduling is essentially the preemptive version of _____

ANSWER: FIFO

530.

A ring counter is same as

Shift Register (a cascade connection of flip-flops) with the output of the last flip flop connected to the input of the first.

531.

Which of these is asymptotically bigger?

Answer: $6 \cdot 2^n$

532.

Which of the following is not a property of DBMS?

A). INCREASE DATE REDUNDONCY.

B).INTERGRATION OF DATA.

C).IMPROVED IN SECURITY.

D).ACHIEVING DATA INDEPENDENCE,

533.

In the blocked state

the processes waiting for I/O are found

the process which is running is found

the processes waiting for the processor are found

the process ready to execute

534.

Which of the following devices assigns IP address to devices connected to a network that uses TCP/IP?

DHCP Server

535.

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?

536.

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

Answer : 2

537.

In which category does the discrepancy between duplicate records belong?

538.

Data Structures and Algorithms:

In a min-heap:

parent nodes have values less than or equal to their children

539.

Which of the following technique is used for Time-To-Line (TTL)?

a technique used in best-effort delivery system to avoid endlessly looping packets.

540.
A page fault occurs

When the page is not in the memory

541.
To build a mod-19 counter the number of flip-flops required is

5 Flip Flops

542.
The cartesian product ,followed by select is equivalent to

Answer: Join

543.
The number of clock pulses needed to shift one byte of data from input to the output of a 4-bit shift register is

16 Clock Pulses

544.
Consider the following New-order strategy for traversing a binary tree:
1)Visit the root;
2)Visit the right subtree using New-order;
3)Visit the left subtree using New-order;
The New-order traversal of the expression tree corresponding to the reverse polish expression $3\ 4\ *\ 5\ -\ 2\ ?\ 6\ 7\ *\ 1\ +\ -$ is given by:

Answer : $- + 1 * 7 6 ^ 2 - 5 * 4 3$

545.
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 _____

Dynamic Linking

546.
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?

Token Ring

547.
Which of the following is not a property of DBMS?

548.

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?

255.255.252.0

549.

_____ constraint is specified between two relations and is used to maintain the consistency among tuples of the two relations

Referential Integrity

550.

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.

Answer: 321

551.

For non-negative functions, $f(n)$ and $g(n)$, $f(n)$ is θ of $g(n)$ if and only if

552.

The main difference between JK and RS flip-flop is that

553.

The sign magnitude representation of binary number + 1101.011 is

Answer: 01101.011

554.

Minimum number of moves required to solve a Tower of Hanoi puzzle is

Answer: $2^n - 1$

555.

The solution to Critical Section Problem is : Mutual Exclusion, Progress and Bounded Waiting.

The Statement is true

556.

Parity bit is

a bit which acts as a check on a set of binary values, calculated in such a way that the number of 1s in the set plus the parity bit should always be even (or occasionally, should always be odd).

557.

Changing the conceptual schema without having to change the external schema is called as _____

Logical Data Independence

558.

The problem of thrashing is effected scientifically by _____ **Program Structure.**

559.

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

quick sort

560.

Update operation will violate

561.

When an inverter is placed between both inputs of an SR flip-flop, then resulting flip-flop is

D Flip Flop

562.

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.

Ethernet, because it can be set up with most topologies and can use multiple transfer speeds

563.

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

Answer: 2 MHz

564.

CSMA (Carrier Sense Multiple Access) is

Media Access control protocol

565.

-----is data about data

Metadata

566.

Which module gives control of the CPU to the process selected by the short-term scheduler?

Dispatcher

567.

The searching technique that takes $O(1)$ time to find a data is

Hashing

568.

The master slave JK flip-flop is effectively a combination of

an SR flip-flop and a T flip-flop

569.

The mechanism that brings a page into memory only when it is needed is called _____

Demand Paging

570.

The main difference between synchronous and asynchronous transmission is

571.

Let R be the relation on the set of positive integers such that aRb 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?

572.

What technique is often used to prove the correctness of a recursive function?

A Commutativity.

- B. Diagonalization.
- **C. Mathematical induction.**
- D. Matrix Multiplication.

573.

The command which undo the transaction is

Roll Back command

574.

Which of the following is a Non-linear data structure

None of the above

575.

Which directory implementation is used in most Operating System?

Tree Directory Structure

576.

Which of the following is not true of virtual memory?

Virtual memory allows more efficient use of memory(Actually, it doesn't)

577.

ARP (Address Resolution Protocol) is

578.

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

Answer: 0111110101

579.

1. If a sequence of push(1), push(2), pop, push(1), push(2), pop, pop, pop, push(2) pop operations are performed in a stack, the sequence of popped out values are

2 2 1 1 2

580.

Changing the conceptual schema without having to change physical schema is

Logical Data Independence

581.

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: **RACE CONDITION**

582.

With a single resource, deadlock occurs,

None of these

583.

The best index for range query is

584.

A system has 'n' processes and each process need 2 instances of a resource. There are n+1 instances of resource provided. This could:

lead to deadlock

lead to starvation & the deadlock

never leads to deadlock

leads to inconsistency

585.

How switching is performed in the internet?

586.

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?

587.

Which of the following is shared between all of the threads in a process? Assume a kernel level thread implementation.

588.

A telephone switch is a good example of which of the following types of switches.

Circuit

589.

Among the following which is not the application of a stack?

590.

Commit, Savepoint, Rollback are **TCL Commands**

591.

Which of the following is shared between all of the threads in a process? Assume a kernel level thread implementation.

592.

In priority scheduling algorithm, when a process arrives at the ready queue, its priority is compared with the priority of

Currently Running Process

593.

The performance of cache memory is frequently measured in terms of a quantity called

Hit Ratio

594.

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?

Delete the last element of the list

595.

R right outer join S on a=b gives

596.

the following pairs of OSI protocol layer/sub-layer and its functionality, the **INCORRECT** pair is

Data Link Layer and Bit synchronization

597.

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

lets say you have n number of cpu and p number of processes

ready state the minimum number of processes = 0, maximum = M

run state the minimum number of processes = 0, maximum = M (at the run state the maximum number of process cannot be p or 0 because we have cpu bound processes. that is np depicts number of i/o bound processes)

at wait state the minimum number of processes = 0, maximum = N

598.

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 of A under round robin scheduling with time slice of one time unit.

9 Units

599.

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

DHCP

600.

What is the software that runs a computer, including scheduling tasks, managing storage, and handling communication with peripherals?

Operating System

601.

1. 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 \$\$\$

602.

This user makes canned transaction **naïve or end user**

603.

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?

15

604.

Buffering is useful because it allows devices and the CPU to operate asynchronously

605.

What does the code snippet given below do?

```
void fun1(struct node *head)
{ if(head==NULL) return;
  fun1(head->next);
  printf("%d",head->data);
}
```

Fun1() prints the given Linked List in reverse manner

606.

The transport layer protocols used for real time multimedia, file transfer, DNS and email, respectively are

UDP, TCP, UDP and TCP

For real time multimedia, timely delivery is more important than correctness. -> UDP

For file transfer, correctness is necessary. -> TCP

DNS, timely delivery is more important -> UDP

Email again same as file transfer -> TCP

607.

This Key Uniquely Identifies Each Record

Primary Key

608.

What is the main difference between traps and interrupts?

How they are initiated

609.

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?

First-fit:

212k -> 500K (288 left)

417k -> 600k (183 left)

122k -> 288k (166k left)

426k -> nowhere big enough left! doh!

Best-fit:

212k -> 300k (88k left)

417k -> 500k (83k left)

122k -> 200k (78k left)

426k -> 600k (174k left)

Worst-fit:

212k -> 600k (388k left)

417k -> 500k (83k left)

122k -> 388k (266k left)

426k -> nowhere big enough again!

the best fit algorithms uses memory most efficiently (it's also the only one that can even put all the processes into memory!)

610.

Which of the following transport layer protocols is used to support electronic mail?

TCP(transport layer) SMTP(application layer)

611.

The following query is called as ? select * from emp where ssn in (select dssn from dependent order by age desc) ?;

DML query

612.

Which of the following is termed as reverse polish notation?

Any postfix notation

613.

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?

SMTP: only one TCP connection

Telnet: only one TCP connection

HTTP: Multiple connections can be used for each resource

FTP: FTP uses Telnet protocol for Control info on a TCP connection and another TCP connection for data exchange

So, answer is HTTP and FTP

614.

The term P means in semaphores

Wait(probheer)

615.

If two interrupts, one of higher priority and other of lower priority occur simultaneously, then the service provided is for

Higher priority

616.

The data type describing the types of values that can appear in each column is called _____.

domain

617.

For the given infix expression $a+b^{\wedge}c*(d-e)$ where ' \wedge ' denotes the EX-OR operator, the corresponding prefix expression is

$^+ab*c-de$

618.

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 _____ .

deadlock

619.

The query to print alternate records (i.e even numbered) from a table is

Select * from TableName where ColumnName % 2 = 0(even number)

SELECT usernameFROM (SELECT ROWNUM num, usernameFROM dba_users)

WHERE MOD (num, 2) = 0;(even number)

Select * from TableName where ColumnName % 2 = 1(odd number)

620.

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

Number of sets = cache size / sizeof a set

Size of a set = blocksize * no. of blocks in a set

= 8 words * 4 (4-way set-associative)

= $8*4*4$ (since a word is 32 bits = 4 bytes)

= 128 bytes.

So, number of sets = $16 \text{ KB} / (128 \text{ B}) = 128$

Now, we can divide the physical address space equally between these 128 sets. So, the number of bytes each set can access

= $4 \text{ GB} / 128$

= 32 MB

= $32/4 = 8 \text{ M words} = 1 \text{ M blocks}$. (220 blocks)

So, we need 20 tag bits to identify these 220 blocks.

621.

Which of the following is two way list?

None of the above

622.

The protocol data unit (PDU) for the application layer in the Internet stack is

Message

623.

In an Ethernet local area network, which one of the following statements is TRUE?

The exponential backoff mechanism reduces the probability of collision on retransmissions

624.

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 $\text{size}(r(R))$

relation $r(R)$ is in the outer loop.

625.

An optimal scheduling algorithm in terms of minimizing the average waiting time of a given set of processes is _____.

SJF

626.

In the process state transition diagram, the transition from the READY state to the RUNNING state indicates that:

the process in the running state can be preempted and brought back to ready state.

627.

1. A circularly linked list is used to represent a Queue. A single variable p is used to access the Queue. To which node should p point such that both the operations enQueue and deQueue can be performed in constant time?

Rear node

628.

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?

(A) $r_1(x) ; r_2(x) ; w_1(x) ; r_3(x) ; w_2(x)$

(B) $r_2(x) ; r_1(x) ; w_2(x) ; r_3(x) ; w_1(x)$

(C) $r_3(x) ; r_2(x) ; r_1(x) ; w_2(x) ; w_1(x)$

(D) $r_2(x) ; w_2(x) ; r_3(x) ; r_1(x) ; w_1(x)$

Answer : D

629.

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

33.33

630.

In the IPv4 addressing format, the number of networks allowed under Class C addresses is

2^{21}

631.

1. If a sequence of enqueue(1), enqueue (2), deque, enqueue (1), enqueue (2), deque, deque, deque, enqueue (2) operations are performed in a queue , the list of elements that **would have been processed** are

632.

Which of the following is not true about segmented memory management?

virtual memory is used only in multi-user systems

633.

R has n tuples and S has m tuples, then the Cartesian product of R and S will produce _____ tuples.

$m*n$

634.

1. In a circular list with 5 nodes, let 'temp' point to the 4th node at present.

```
int i;
```

```
for(i=0;i<4;i++)
```

```
temp=temp->next;
```

The above code will make 'temp' point to

3rd Node

635.

What is the main difference between traps and interrupts?

Trap is s/w generated. Interrupt is h/w generated.

636.
IEEE 802.5 is a _____

Token Ring related

637.
Which one of the following fields of an IP header is NOT modified by a typical IP router?

Source Address

638.
Minimal super key of a relation is called _____.

Candidate key

639.
For what value of c_1 and c_2 , the theta notation of $f(n)=5n^2+3n+2$ is n^2 ?

640.
When a program tries to access a page that is mapped in address space but not loaded in physical memory, then

Page fault occurs

641.
The main advantage of DMA is that it

High transfer rates

642.
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?
2046

643.
A typical hard drive has a peak throughput of about

600 mbps (not sure)

644.
Which algorithm chooses the page that has not been used for the longest period of time whenever the page required to be replaced?

LRU

645.
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?

The candidate keys are A, E, CD, and BC

- 646.
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 ?

$O(1)$. Insert element at rear.

647.

DMA is useful for the operations

DMA is useful for transferring data between memory and devices if large volume of data is to be transferred, or the devices have small response times. Because after setting up buffers, pointers, and counters for the I/O device, the device controller transfers an entire block of data directly to or from its own buffer storage to memory, with no intervention by the CPU. Only one interrupt is generated per block, rather than the one interrupt per byte (or word) generated for low-speed devices.

Alternatively, you may simply say:

DMA is useful for transferring large quantities of data between memory and devices. It eliminates the need for the CPU to be involved in the transfer, allowing the transfer to complete more quickly and the CPU to perform other tasks concurrently.

648.

1. Which sorting technique uses a data structure similar to the one used in bucket hashing?

Bucket sort

649.

How many address bits are needed to select all memory locations in the 16K × 1 RAM?

14

650.

RAID is a way to:

RAID is the way of combining several independent and relatively small disks into a single storage of a large size. The disks included into the array are called array members. The disks can be combined into the array in different ways which are known as RAID levels.

651.

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.

Network layer – 4 times

Data link layer – 6 times

652.

_____ **SCHEMA** _____ is the description of the database

653.

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.

DNS query, TCP SYN, HTTP GET request

654.

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

655.

Which of these would not be a good way for the OS to improve battery lifetime in a laptop?

Turn off power to the memory

656.

Which of the following is not included in an inode in Linux?

File name and directory

657.

The DMA controller has _____ registers

3

658.

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?

1000

659.

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

MF bit: 0, Datagram Length: 1444; Offset: 370

660.

1. For the array , (77 ,62,114,80,9,30,99), write the order of the elements after two passes using the Radix sort.

661.

What is the correct HTML for making a hyperlink?

a href = ""

662.

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?

It can be used to prevent packet looping

663.

Assume relations R and S with the schemas R (A, B, C) and S (B, D). Which of the following is equivalent to $r \bowtie s$?

664.

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

849

665.

1. Time complexity of the program to generate Fibonacci sequence is

$T(n) = T(n-1) + T(n-2)$ which is exponential.

Or O(n)

666.

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

Atomicity, Consistency, Isolation, durability

667.

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

5 4 3 1 12 6 10 8 7 9

668.

When process requests for a DMA transfer ,

process is temporarily suspended and another process gets executed.

669.

How switching is performed in the internet?

Packet Switching

670.

The <big> tag makes

the text bigger than the normal. Not supported in HTML 5

671.

1. 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

672.

Which of following property returns the window object generated by a frame object

contentWindow

673.

Foreign key is a subset of primary key is stated in _____ constraint

Foreign Key

674.

What is the unique characteristic of RAID 6 ?

Two independent distributed parity.

675.

A layer -4 firewall (a device that can look at all protocol headers up to the transport layer) CANNOT

Block TCP traffic from a specific user on a multi-user system during 9:00PM and 5:00AM

676.

Which of the following address modes calculate the effective address as address part of the instruction) + (content of CPU register)

. Indirect Address Mode

677.

A telephone switch is a good example of which of the following types of switches.

circuit

678.

Which component of a database is used for sorting?

procedure

679.

1What is the output of following JavaScript code

680.

If a , b , c, d are four nodes connected in sequence in a doubly-linked list

Struct node *temp=a;

Temp=temp->next;

(Temp->next)->prev=temp->prev;

(Temp->prev)->next=temp->next; Which of the following is true?

B is deleted from the list

681.

The load instruction is mostly used to designate a transfer from memory to a processor register known as

accumulator

682.

You can refresh the web page in javascript by using method.

Reload()

683.

The max-heap for the array (4, 3, 1, 5, 9, 2, 8) is

9

5 8

3 4 1 2

684.

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

single segment message.

685.

Consider the following relation

Cinema (theater, address, capacity)

Which of the following options will be needed at the end of the SQL query

SELECT P1. address

FROM Cinema P1

Such that it always finds the addresses of theaters with maximum capacity?

WHERE P1. Capacity>= All (select P2. Capacity from Cinema P2)

686.

In Circuit Switching, resources need to be reserved during the

Setup phase

687.

The load instruction is mostly used to designate a transfer from memory to a processor register known as_____.

accumulator

688.

Which of the following is the correct way for writing JavaScript array?

var txt = new Array("arr ", "kim", "jim")

689.

Among the following ,which has the highest time complexity $O(n^2)$ in all the three cases.(Worst,average and best) and cannot be improved?

690.

Which of the following relational algebra operations do not require the participating tables to be union-compatible?

Join

691.

In RMI Architecture which layer Intercepts method calls made by the client/redirects these calls to a remote RMI service?

Stub and Skeleton layer

692.

Assume transaction A holds a shared lock R. If transaction B also requests for a shared lock on R.

It will immediately be granted

693.

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

0111110101

694.

For an algorithm whose step-count is $45n^3 + 34n$, choose the correct statement.

695.

What is the output of following JavaScript code

696.

Relations produced from an E-R model will always be in **3NF**

697.

How do you put a message in the browser's status bar?

window.status = "put your message here"

698.

Congestion control and quality of service is qualities of the

ATM

699.

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?

Width of processor to main memory data bus

700.

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.

3

701.

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.

36

702.

Which two files are used during operation of the DBMS?

data dictionary and transaction log

703.

In the following pairs of OSI protocol layer/sub-layer and its functionality, the **INCORRECT** pair is

Data Link Layer and Bit Synchronization

704.

What is the output of following JavaScript code?

705.

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?

62,14,9,30,77,80,99

706.

What is the correct JavaScript syntax to write "Hello World"

document. write("Hello World");

707.

The local host and the remote host are defined using IP addresses. To define the processes, we need second identifiers called.....

UDP Addresses

708.

The number of outputs in n-input decoder is

2^n

709.

Which two RAID types use parity for data protection?

RAID 4 and RAID 5

710.

Rotation method of hashing is usually combined with other hashing techniques except

Last character

711.

The two's complement of 101011 is

010101

712.

-----is a description of the database

Schema

713.

Browsers typically render text wrapped in _____ tags as an indented paragraph.

<blockquote>

714.

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

DHCP

715.

1. Among the following sorting techniques ,which has its time complexity as $O(n)$ in the best-case?

Insertion,Bubble

716.

-----involves finding the best line to fit two attributes so that one attribute is used to predict another attribute.

Linear Regression

717.

The number of boolean functions in n-variables is

$(2^{(2^n)})$

718.

UDP uses..... to handle outgoing user datagrams from multiple processes on one host.

Multiplexing

719.

Who invented the JavaScript programming language?

Brendan Eich

720.

Java package is a grouping mechanism with the purpose of

Controlling the visibility of classes, interface and methods

721.

A heap memory area is used to store the

Heap memory is used for dynamic memory allocation

722.

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)

723.

What is the output of following JavaScript code?

```
<script type="text/javascript">
x=4+"4" ;
document.write (x) ;
</script>
```

Output : 44

724.

The lifetime of flash memory is -----

Lifetime of a flash memory is long.

725.

A schema describes

A. Record & files

B. data elements

C. record relationships

D. all of the above

Ans Correct Answer is d

726.

What is the output of following JavaScript code

727.

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

Ans: B. DNS

728.

What is the multiplexer used for?

a) It is a type of decoder which decodes several inputs and gives one output

b) A multiplexer is a device which converts many signals into one

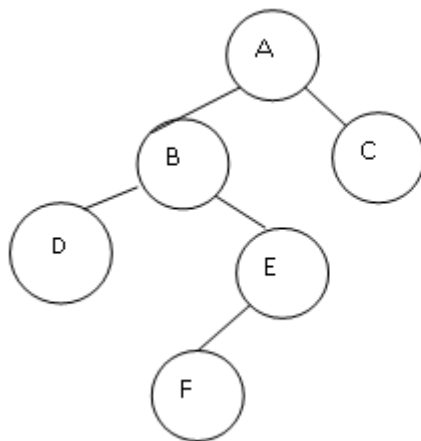
c) It takes one input and results into many output

d) None of the Mentioned

Ans. B

729.

Which of the following is true for the given tree?



Which of the following is true for the given tree?

730.

Trigger is a

Trigger is a special kind of a store procedure that executes in response to certain action on the table like insertion, deletion or updation of data

731.

Which of the following transport layer protocols is used to support electronic mail?

(A) SMTP

(B) IP

(C) TCP

(D) UDP

Answer (C)

E-mail uses SMTP as application layer protocol. SMTP uses TCP as transport layer protocol.

732.

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: I = 1

733.

Identify the addressing mode of the following instruction

Add R1, R2, R3

where R1, R2 are operands and R3 destination

Answer : Three-Address Instructions

734.

R left outer join S on a=b gives

No table given

735.

What is the output of following JavaScript code

```

<script type="text/javascript">
var cst = "PHPKB Knowledge Base Software";
var result =cst.substring(7,8);
document.write(result);</script>

```

Output : N

736.

Foreign key is a subset of primary key is stated in -----constraint

737.

What is the output of following JavaScript code

738.

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.Jabbering

c.Blocking

d.Refreshing

Ans: b.Jabbering

739.

To prevent any method from overriding, the method has to declared as,

And: Method is declared with a 'final' keyword

740.

Which of the following addressing modes has minimum number of memory access to access the operands?

- A. Indirect
- B. Direct
- C. Indexed
- D. Immediate

And: D.Immediate

741.

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

Answer: (A)

Explanation: HTTP may use different TCP connection for different objects of a webpage if non-persistent connections are used.

FTP uses two TCP connections, one for data and another control.

TELNET and FTP can only use ONE connection at a time

742.

R left outer join S on a=b gives

743.

The ways to accessing html elements in java script

document.getElementById("intro");

getElementsByTagName("p");

getElementsByTagName("intro");

document.forms["frm1"];

744.

How many flip-flops are present in register of sixteen bits?

Ans: 16 Flip flops

745.

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

Ans: Inorder Predecessor

746.

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?

(A) 14

(B) 30

(C) 62

(D) 126

Answer: (C)

747.

4. 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: C. <script src=\" abc.js\">

748.

Which one of the following is not true?

749.

In a relational schema, each tuple is divided into fields called

A) Relations

B) Domains

C) Queries

D) All of the above

Ans: B) Domains

750.

If a pipeline has five stages, assuming each stage is one cycle, the earliest time to receive an output from an instruction without any forwarding (not nop) is after which cycle?

751.

The term scheme means:

752.

How many phases are present in the simplest pipeline system?

753.

Identify the sorting technique that supports divide and conquer strategy and has (n^2) complexity in worst case

-
- a. Bubble sort
 - b. Insertion sort
 - c. Quick sort
 - d. All of above

Ans: c. Quick sort

754.

A system of interlinked hypertext documents accessed via the Internet is known as

The World Wide Web (abbreviated as WWW or W3, commonly known as the web), is a system of interlinked hypertext documents accessed via the Internet

755.

Value of checksum must be recalculated regardless of

De-fragmentation

Fragmentation

Transfer

Size

Ans: Fragmentation

756.

In Circuit Switching, resources need to be reserved during the

Ans: the resources need to be reserved during **the setup phase**

757.

The language used in application programs to request data from the DBMS is referred to as the

- A. DML
- B. DDL
- C. query language
- D. All of the above
- E. None of the above

Answer: Option A

758.

A _____ is often used if you want the user to verify or accept

confirm box

759.

Can any unsigned number be represented using one register in 64-bit processor

ANS: $2^{63} - 1$ numbers (Not sure).

760.

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?

Ans: 45,55,70,85

761.

Which normal form is considered adequate for relational database design?

Ans: Which normal form is considered adequate for normal relational database design? Explanation: A relational database table is often described as "normalized" if it is in the Third Normal Form because most of the 3NF tables are free of insertion, update, and deletion anomalies
3NF

762.

In Javascript, which of the following method is used to find out the character at a position in a string?

- a) charAt()
- b) CharacterAt()
- c) CharPos()
- d) characAt()

ans: a

763.

If the page size is 1024 bytes, what is the page number in decimal of the following virtual address

1110 1010010101

764.

The protocol data unit (PDU) for the application layer in the Internet stack is

- (A) Segment
- (B) Datagram
- (C) Message
- (D) Frame

Answer (C)

The Protocol Data Unit for Application layer in the Internet Stack (or TCP/IP) is called Message.

765.

1. The preorder traversal of the AVL tree obtained by inserting 17,7,20,10,8 is

766.

A queue data structure can be used for

Ans: Typical uses of queues are in simulations and operating systems.

Operating systems often maintain a queue of processes that are ready to execute or that are waiting for a particular event to occur.

Computer systems must often provide a “holding area” for messages between two processes, two programs, or even two systems. This holding area is usually called a “buffer” and is often implemented as a queue.

767.

What is the JavaScript syntax to insert a comment that has more than one line?

ans: “/* ... */” can be used to insert comment > 1line

768.

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

page 46?????

769.

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

Answer:

(D)

770.

The concept of locking can be used to solve the problem of

Deadlock

Lost update

Inconsistent

All of the above

Ans: All of the above

771.

..... is very useful in situation when data have to stored and then retrieved in reverse order.

Ans: Stack

772.

In a E-R diagram, ellipses represent a

Ans : Attributes are represented by means of ellipses. Every ellipse represents one attribute

773.

What does isNaN function do in JavaScript?

Ans: The isNaN() function determines whether a value is an illegal number (Not-a-Number). This function returns true if the value equates to NaN. Otherwise it returns false.

774.

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 :

Ans: 01110

775.

The daisy chaining priority gives least priority to which device?

Ans: Slow devices such as Keyboard

776.

A binary search tree whose left subtree and right subtree differ in height by at most 1 unit is called

Ans AVL Tree

777.

Which method is implemented in RAID 1?

RAID 1 consists of an exact copy (or mirror) of a set of data on two or more disks; a classic RAID 1 mirrored pair contains two disks. This configuration offers no parity, striping, or spanning of disk space across multiple disks, since the data is mirrored on all disks belonging to the array, and the array can only be as big as the smallest member disk. This layout is useful when read performance or reliability is more important than write performance or the resulting data storage capacity.

778.

Dotted-decimal notation of 10000001 00001011 00001011 11101111 would be

Ans: 129 .11 .11.239

779.

Which of the following desired features are beyond the capability of relational algebra?

(a) Aggregate computation

(b) Multiplication

(c) Finding transitive closure

(d) None of the above

Ans: All a,b,c (Aggregate Computation,Multiplication,Finding transitive closure)

780.

How do you create a new object in JavaScript?

Ans : There are various ways to create an object in js:

a)define a constructor function and then create an object by using the new keyword

b)Using object.create() method

Object.create(proto [, propertiesObject])

781.

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

Ans: Maximum Memory = 4GB = 232 bytes

Size of a word = 2 bytes

Therefore, Number of words = $232 / 2 = 231$

So, we require 31 bits for the address bus of the processor.

782.

When determining the efficiency of algorithm the time factor is measured by

Ans: Counting the number of key operations

783.

What is the output of following JavaScript code?

```
<script type="text/javascript">
function x() {
var s = "Quality 100%!{[!!";
var pattern = /\w/g;
document.write(s.match(pattern));
}</script>
```

Ans: Quality 100

784.

What are the potential problems when a DBMS executes multiple transaction concurrently

Ans: Lost update problem, dirty read problem

785.

In the IPv4 addressing format, the number of networks allowed under Class C addresses is

Ans: 2^{21}

786.

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?

Ans : Telnet

787.

RAM type is justified as

Ans RAM is justified as being reliable and error detecting

788.

Linked lists are best suited

Ans for the size of the structure and the data in the structure are constantly changing

789.

Which of the following object is the highest-level object in the browser object hierarchy?

Ans Javascript Window object

790.

Let R be a relation. Which of the following comments about the relation R are correct?

791.

The resources needed for communication between end systems are reserved for the duration of session between end systems in

Ans Circuit Switching

792.

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

Ans

Size of data count register of the DMA controller = 16 bits

Data that can be transferred in one go = 216 bytes = 64 kilobytes

File size to be transferred = 29154 kilobytes

So, 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 = $\text{ceil}(29154/64) = 456$

793.

Linked list are not suitable data structure of which one of the following problems ?

Ans: Binary Search(Because it will take $O(n/2)$ time to find the middle element)

794.

What is the output of following JavaScript code?

```
<script type="text/javascript">
function x(z,t){
alert(x.length);}</script>
```

Ans 2

795.

Changing the conceptual schema without having to change physical schema is

Ans Data Independence

796.

_____ extracts the DML statements from a host language and passes to DML Compiler

Ans Precompiler

797.

What is the output of following JavaScript code?

```
<script type="text/javascript">
var cst = "Chadha Software Technologies";
var result = cst.indexOf("Tech");
document.write(result);
</script>
```

Ans 16

798.

Which of the following is useful in implementing quick sort?

Ans Stacks

799.

Which of the following raid levels provides maximum usable disk space?

Ans Raid 0

800.

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

Ans Source Address

801.

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

Ans AC=1 CY 0

802.

Which of the following object represents the HTML document loaded into a browser window?

Ans Window object

803.

What is the result of the following operation Top (Push (S, X))

Ans X

804.

These networking classes encapsulate the "socket" paradigm pioneered in the (BSD) Give the abbreviation of BSD?

Ans Berkeley Software Distribution

805.

Truncate is _____ command

Ans DDL

806.

In a priority queue insertion and deletion takes place at

Ans Any Position

807.

A transaction is permanently saved in the hard disk only after giving

Ans COMMIT Command

808.

The performance of cache memory is frequently measured in terms of a quantity called

Ans Hit Ratio

809.

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

Ans Single segmented Message

810.
What is the output of following JavaScript code?

811.
When does the top value of stack changes?

Ans Before Insertion

812.
Digital signature envelope is decrypted by using _____.

Ans Symmetric key

813.
What is mean by "this" keyword in javascript?

Ans In JavaScript, the thing called this, is the object that "owns" the JavaScript code. The value of this, when used in a function, is the object that "owns" the function. The value of this, when used in an object, is the object itself. The this keyword in an object constructor does not have a value.

814.
DMA is useful for the operations

Ans DMA is useful for transferring data between memory and devices if large volume of data is to be transferred, or the devices have small response times.

815.
The data manipulation language (DML)

816.
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?

Ans 2046

817.

```
int unknown(int n) {  
    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;  
}
```

818.
Math. round(-20.5)=?

Ans 21

819.
Computers use addressing mode techniques for _____.

Ans : 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

Ans ALL ABC

820.

An advantage of the database approach is

Ans The advantages in the database approach are as follows:

- ☐ All the three managers are using the same database; hence, any report using the information will not be inconsistent.
- ☐ All the three managers can view the database as per their needs.
- ☐ The application systems can be developed independent of the database.
- ☐ The data validation and updating will be once and same for all.
- ☐ The data is shared by all users.
- ☐ The data security and privacy can be managed and ensured because the data entry in the database occurs once only and is protected by the security measures.
- ☐ Since the database is storage of the structured information, the queries can be answered fast by using the logic of the data structures.

821.

Which of the following is not characteristics of a relational database model

822.

The maximum number of binary trees that can be formed with three unlabeled nodes is:

5

823.

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

16

824.

Which built-in method sorts the elements of an array

Sort()

825.

In Mode, the authentication header is inserted immediately after the IP header.

Tunnel

826.

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.

network layer -4 times, data link layer-6times

827.

The minimum duration of the active low interrupt pulse for being sensed without being lost must be

one machine cycle

828.

Microsoft SQL Server is an example for which OLAP Server?

Specialized SQL servers

829.

Which built-in method returns the length of the string?

length()

830.

Trace the output of the following code?

```
#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;
```

116,116

831.

Which of the following is not a stored procedure?

832.

Determine the output of the following code?

```
#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()
{
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>
1011

```

833.
Which of the following statements is FALSE regarding a bridge

Bridge reduces broadcast domain

834.
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?

800

835.
Which of the following function of Array object calls a function for each element in the array?

forEach()

836.
Consider the following pseudo code fragment:
printf ("Hello");

```
if(!fork( ))  
printf("World");  
Which of the following is the output of the code fragment?
```

837.
Congestion control and quality of service is qualities of the

frame relay

838.
Which one of these is characteristic of RAID 5?

Distributed parity

839.
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

35 Kbytes

840.
Dynamic web page

generates on demand by a program or a request from browser

841.
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.

DNS query, TCP SYN, HTTP GET request

842.
Generally Dynamic RAM is used as main memory in a computer system as it_____.

has higher speed

843.
Which one of the following statements is false?

844.
Which of the following is not a function of a DBA?

Network maintenance

845.
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;}  

```

846.
Uniform Resource Locator (URL), is a standard for specifying any kind of information on the internet

847.

Which one of the following is a cryptographic protocol used to secure HTTP connection?

transport layer security (TSL)

848.

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

31%

849.

Consider a relation R (A, B). If $A \twoheadrightarrow B$ is a trivial functional dependency and A is the super key for R, then what is the maximum normal form R can be in?

BCNF

850.

What is the unique characteristic of RAID 6 (Choose one)?

Two independent distributed parity

851.

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

MF bit: 0, Datagram Length: 1444; Offset: 370

852.

What will be the values of x, m and n after the execution of the following statements?

```
int x, m, n;  
m = 10;  
n = 15;  
x = ++m + n++;
```

26 11 16

853.

What is the code to be used to trim whitespaces ?

let trimmed = (l.trim() for (l in lines));

854.

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

165

855.

What's the output of the following code?

```
var city = new Array("delhi", "agra", "akot", "aligarh");  
city.push('palampur');
```

document.write(city);

["delhi", "agra", "akot", "aligarh", "palampur"]

856.

RAID is a way to:

combining several independent and relatively small disks into a single storage of a large size

857.

If the offset of the operand is stored in one of the index registers, then it is

is indexed addressing mode

858.

What happens when a pointer is deleted twice?

it can cause a trap

859.

The local host and the remote host are defined using IP addresses. To define the processes, we need second identifiers called

port addressess

860.

Consider the following relation

Cinema (theater, address, capacity)

Which of the following options will be needed at the end of the SQL query

SELECT P1. address

FROM Cinema P1

Such that it always finds the addresses of theaters with maximum capacity?

WHERE P1. Capacity >= All (select P2. Capacity from Cinema P2)

861.

Which of the following are sufficient conditions for deadlock?

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

Answer-All of the mentioned

862.

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?

It can be used to prevent packet looping

863.

Which of the following type casts will convert an Integer variable named amount to a Double type?

(double) amount

864.

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?

1000

865.

UDP uses..... to handle outgoing user datagrams from multiple processes on one host.

multiplexing

866.

When an instruction is read from the memory, it is called

instruction cycle (sometimes called a fetch–decode–execute cycle)

867.

What should be used to point to a static class member?

Normal pointer

868.

The '\$' present in the RegExp object is called a

metacharacter

869.

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

870.

Foreign key is a subset of primary key is stated in _____ constraint

871.

The protocol defines a set of messages sent over either User Datagram Protocol (UDP) port53 or Transmission Control Protocol(TCP) port53.

DNS

872.

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

pattern.test(text)

873.

Which two RAID types use parity for data protection?

RAID 4, RAID 5

874.

Which cause a compiler error?

875.

The regular expression to match any one character, not between the brackets is

[^...]

876.

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 d

ecrypted. Which one of the following sequences of keys is used for the operations?

Encryption: X's private key followed by Y's public key; Decryption: Y's private key followed by X's public key

877.

Which of the following relational algebra operations do not require the participating tables to be union-compatible?

JOIN

878.

Which of the following scan() statements is true?

879.

A process executes the code

```
fork();
```

```
fork();
```

```
fork();
```

The total number of child process created is

7

880.

A variable P is called pointer if

P contains the address of an element in DATA.

881.

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

$N(N - 1)/2$

882.

Which of the following statement on the view concept in SQL is invalid?

The definition of a view should not have GROUP BY clause in it.

883.

A 20-bit address bus allows access to a memory of capacity

1Mb

884.

What does `/[^\]]*` regular expression indicate ?

Match zero or more characters that are not open parenthesis

885.

A RAM chip has a capacity of 1024 words of 8 bits each (1K*8). The number of 2*4 decoders with enable line needed to construct a 16K*6 RAM from 1K*8 RAM is

5

886.

A layer -4 firewall (a device that can look at all protocol headers up to the transport layer) CANNOT

block HTTP traffic during 9:00PM and 5:00AM

887.

The function `scanf()` reads

Multiple characters

888.

In SQL, testing whether a subquery is empty is done using

EXISTS

889.

What will be the result when non greedy repetition is used on the pattern `/a+?b/` ?

Matches the letter b preceded by the fewest number of a's possible

890.

DMA is useful for the operations

DMA is useful for transferring large quantities of data between memory and devices. It eliminates the need for the CPU to be involved in the transfer, allowing the transfer to complete more quickly and the CPU to perform other tasks concurrently

891.

`main()` is an example of

892.

What does the subexpression `/java(script)?/` result in ?

It matches "java" followed by the optional "script"

893.

Which of the following is not a characteristic of a relational database model?

treelike structure

894.

Which type of error detection uses binary division?

Cyclic Redundancy Check (CRC)

895.

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 _____.

Jabbering

896.

An identifier in C

897.

A RAM chip has a capacity of 1024 words of 8 bits each (1K*8). The number of 2*4 decoders with enable line needed to construct a 16K*6 RAM from 1K*8 RAM is

5

898.

Given the basic ER and relational models, which of the following is INCORRECT?

In a row of a relational table, an attribute can have more than one value

899.

What is the most essential purpose of parantheses in regular expressions ?

Define subpatterns within the complete pattern

900.

Which of the following are sufficient conditions for deadlock?

5. mutual exclusion

The resources involved must be unshareable; otherwise, the processes would not be prevented from using the resource when necessary.

6. hold and wait or partial allocation

The processes must hold the resources they have already been allocated while waiting for other (requested) resources. If the process had to release its resources when a new resource or resources were requested, deadlock could not occur because the process would not prevent others from using resources that it controlled.

7. no pre-emption

The processes must not have resources taken away while that resource is being used. Otherwise, deadlock could not occur since the operating system could simply take enough resources from running processes to enable any process to finish.

8. resource waiting or circular wait

901.

The method that performs the search-and-replace operation to strings for pattern matching is

a) searchandreplace()

b) add()

c) edit()

d) replace()

902.

Which of the following is TRUE?

903.

A variable whose size is determined at compile time and cannot be changed at run time is

A. Static Variable

B. Dynamic Variable

C. Not a variable

D. None of These

904.

Value of checksum must be recalculated regardless of

a) De-fragmentation

b) Fragmentation

c) Transfer

d) Size

905. A union that has no constructor can be initialized with another union of _____ type

A. different

B. same

C. virtual

D. class

906.

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

907.

Memory mapped displays

Uses ordinary memory to store the display data in character form

908.

What would be the result of the following statement in JavaScript using regular expression methods ?

a) Returns ["123" "456" "789"].

b) Returns ["123", "456", "789"].

c) Returns [1,2,3,4,5,6,7,8,9].

d) Throws an exception

909.

Which one of the following statements is FALSE?

910.

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);
}
```

a) Returns the same kind of array whether or not the regular expression has the global g flag

b) Returns different arrays in the different turns of iterations

c) All of the mentioned

d) None of the mentioned

911.

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 size of the per-process page table is _____ megabytes.

(A) 384

(B) 48

(C) 192

(D) 96

912.

Structured programming involves

- A. decentralisation of program activity
- B. functional modularisation**
- C. localisation of errors
- D. All of the above
- E. None of the above

913.

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) None of the mentioned

914.

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?

- (a) 2
- (b) 3**
- (c) 4
- (d) 5

915.

Which function among the following lets to register a function to be invoked once?

- a) setTimeout()**
- b) setTimeout()
- c) setInterval()
- d) none of the mentioned

916.

Select operation in SQL is equivalent to

- (A) the selection operation in relational algebra
- (B) the selection operation in relational algebra, except that select in SQL retains duplicates
- (C) the projection operation in relational algebra
- (D) the projection operation in relational algebra, except that select in SQL retains duplicates**

917.

By default, any real number in C is treated as

- A. A float
- B. A double**
- C. A long double
- D. Depend upon memory model that you are using

918.

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 Distribution
- D) None of the above

919.

. 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

920.

Integer division in a C program results in

A. Truncation

- B. Rounding
- C. Underflow
- D. None of these

921.

Which function among the following lets to register a function to be invoked **repeatedly** after a certain time?

- a) setTimeout()
- b) setTotaltime()

c) setInterval()

d) none of the mentioned

922.

Grant and revoke are statements

DCL Commands – Data Control Language

923.

The minimum number of page frames that must be allocated to a running process in a virtual memory environment is determined by

a) the instruction set architecture

b) page size

c) physical memory size

d) number of processes in memory

924.

Which is the handler method used to invoke when uncaught JavaScript exceptions occur?

a) Onhalt

b) Onerror

c) Both onhalt and onerror

d) None of the mentioned

View Answer

925.

For C• Programming language

926.

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.

927..... command can be used to modify a column in a table

Answer: ALTER

928.

The function $f(x) = ab + a$ can be simplified as

Answer: a

929.

Consider the C function given below.

```
int f(int j)
{
    static int i = 50;
    int k;
    if (i == j)
    {
        printf(?something?);
        k = f(i);
        return 0;
    }
    else return 0;
}
```

Which one of the following is TRUE?

- (A) The function returns 0 for all values of j.
- (B) The function prints the string something for all values of j.
- (C) The function returns 0 when j = 50.
- (D) The function will exhaust the runtime stack or run into an infinite loop when j = 50**

930. Which property is used to obtain browser vendor and version information?

- a) modal
- b) version
- c) browser
- d) navigator**

931.

_____ Substitution is a process that accepts 48 bits from the XOR operation.

- a. S-box.**
- b. P-box.
- c. Expansion permutations.
- d. Key transformation.

932.

The number of squares in K-map of n-variables is **2^n**

933.

Data independence means

It means we change the physical storage/level without affecting the conceptual or external view of the data.

934.

In Mode, the authentication header is inserted immediately after the IP header.

- A) Tunnel**
- B) Transport

- C) Authentication
D) Both A and B

935.

The output of combinational circuit depends on **the levels present at input terminals.**

936.

Which method receives the return value of **setInterval()** to cancel future invocations?

- a) clearInterval()
- b) cancelInvocation()
- c) clearInterval()**
- d) None of the mentioned

937.

DCL stands for DATA CONTROL LANGUAGE

938.

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 $v \neq y$

939.

_____ uniquely identifies the MIME entities uniquely with reference to multiple contexts.

- a. Content description.
- b. Content -id.**
- c. Content type.
- d. Content transfer encoding.

940.

..... is preferred method for enforcing data integrity

A) Constraints

B) Stored procedure

C) Triggers

D) Cursors

941.

Find the output of the following program?

```
#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;
    E = 20;
    *A = *B;
    B = &E;
    D = (*B)++;
    *C = (*A)++ * (*B)--;
    E = *C++ - *B--;
    cout<<*A<<*B<<*C<<d<<e;
    return 0;
}</d<<e;
```

942.

The **setTimeout()** belongs to which object?

a) Element

b) Window

c) Location

d) None of the mentioned

943.

Which of the following is fully functional ?

944.

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

945.

The alphabet are represented in which format inside the computer?

Answer: Binary/ASCII

946.

Which method receives the return value of **setTimeout()** to cancel future invocations?

a) clearTimeout()

b) clearInterval()

c) clearSchedule()

d) none of the mentioned

947.

Which of the following is not a binary operator in relational algebra?

A) Join

B) Semi-Join

C) Assignment

D) Project

948.

The library function exit() causes an exit from

a) the loop in which it occurs

(b) the block in which it occurs

(c) the functions in which it occurs

(d) the program in which it occurs

949.

Which of the following statement is correct about destructors?

A). A destructor has void return type.

B). A destructor has integer return type.

C). A destructor has no return type.

D). A destructors return type is always same as that of main().

950.

----- 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.

Answer: Electronic Code Book

951.

What will happen if we call **setTimeout()** with a time of 0 ms?

In short, setTimeout(someFunc, 0) will run someFunc 0ms after the current executing functions has finished running.

952.

Which of the following is/are not a DDL statements?

- a) **UPDATE**
- b) TRUNCATE
- c) ALTER
- d) None of the Mentioned

Explanation: Data definition language (DDL) commands enable you to perform the following tasks: Create, alter, and drop schema objects.

953.

The number of bits to represent 128 sets in direct mapped cache is **7 bits**

954.

To which object does the **location** property belong?

- a) **Window**
- b) Position
- c) Element
- d) Location

955. Which database level is closest to the users?

- A. External**
- B. Internal
- C. Physical
- D. Conceptual

956.

The interrupts are serviced using which of the following

Answer: Interrupt Service Routine

957.

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

- (A) 10000 bits**
- (B) 10000 bytes**
- (C) 5000 bits**
- (D) 5000 bytes**

958. Java package is a grouping mechanism with the purpose of

Answer: encapsulate a group of classes

959. **What is the data structure used for executing interrupt service subroutine ?**

960.

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;
    System.out.println(" I = " +i);
}
}

```

- (a) I = 0
- (b) I = 1**
- (c) I = 2
- (d) I = 3

961.

..... data type can store unstructured data

- A. RAW**
- B. CHAR
- C. NUMERIC
- D. VARCHAR

962.

What is the result of the following code snippet?

```
window.location === document.location
```

- a) False
- b) True**
- c) 0
- d) 1

963.

What is the access point (AP) in wireless LAN?

- a) device that allows wireless devices to connect to a wired network**
- b) wireless devices itself
- c) both (a) and (b)
- d) none of the mentioned

964.

Which multiple access technique is used by IEEE 802.11 standard for wireless LAN?

- a) CDMA
- b) CSMA/CA – Carrier Sense Multiple Access with Collision Avoidance**
- c) ALOHA
- d) None of the mentioned

965.

The output in sequential circuit depends on which of the following?

Answer: Present and past inputs

966. A table can have only one **PRIMARY KEY**

967.

To prevent any method from overriding, the method has to be declared as, **FINAL**

968.

* In which part does the form validation should occur?

a) Client

b) Server

c) Both Client and Server

d) None of the mentioned

969. How to find the index of a particular string?

a. position()

b. index()

c. indexOf()

d. None of the mentioned

Explanation : The indexOf() function can be used to find out the index of a particular character or a string.

970.

The power consumed by full adder can be reduced by using which of the following?

971.

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;
    }
}
```

- a) 1 , 3
- b) 3 , 1
- c) 1 , 1**
- d) 1 , 0
- e) none of the above.

972.

-----module of the DBMS controls access to DBMS information that is stored on disk, whether it is part of the database or the catalog

Answer: Data Manager Module (Higher Level Stored)

973.

A 20 Kbps satellite link has a propagation delay of 400 ms. The transmitter employs the "go back n ARQ" scheme with n set to 10. Assuming that each frame is 100 bytes long, what is the maximum data rate possible?

- A. 5 Kbps
- B. 10 Kbps**
- C. 15 Kbps
- D. 20 Kbps

974.

Which of the following is the child object of the JavaScript navigator?

- a.Navicat
- b.Plugins**
- c.NetRight
- d. None of the mentioned

Explanation : The JavaScript navigator object includes a child object called *plugins*.

975.

A wireless network interface controller can work in

- a) infrastructure mode
- b) ad-hoc mode
- c) both (a) and (b)**
- d) none of the mentioned

Explanation: In infrastructure mode WNIC needs access point but in ad-hoc mode access point is not required.

976.

Given the code

```
String s1 = " VIT" ;
```

```
String s2 = " VIT " ;  
String s3 = new String ( s1);  
Which of the following would equate to true?
```

- (A) s1 == s2
- (B) s1 = s2
- (C) s3 == s1
- (D) s1.equals(s2)
- (E) s3.equals(s1)

a) (A), (D) & (E)

- b) (A), (C) & (E)
- c) (A), (B) & (C)
- d) (C), (D) & (E)
- e) (D) & (E)

Explanation: s1==s2 is indeed "true" since they point to the same instance of "VIT" as they are "not" declared with the new String("VIT") function.

977.

The number of distinct symbols in radix-r is

Answer: r

Explanation: A number system of radix r uses a string consisting of r distinct symbols to represent a value.

978.---**PRECOMPILER**---- component of DBMS extracts DML commands from an application program written in a host programming language

979.

Which one of the following event is not possible in wireless LAN.

a) collision detection

- b) acknowledgement of data frames
- c) multi-mode data transmission
- d) none of the mentioned

980.

Which of the following are the properties of a plug-in entry?

- a) name
- b) filename
- c) mimeTypees

d) all of the mentioned

Each plug-in has an entry in the array. Each entry has the following properties:

- name – is the name of the plug-in.
- filename – is the executable file that was loaded to install the plug-in.
- description – is a description of the plug-in, supplied by the developer.
- mimeType – is an array with one entry for each MIME type supported by the plug-in

981.

The runtime database processor of DBMS executes-----**QUERY CODE**-----

982.

What is the sequence of major events in the life of an applet?

Answer:

- i) loading the applet**
- ii) leaving and returning to the applet's page**
- iii) reloading the applet**
- iv) quitting the browser**

983.

Can a system have multiple DMA controllers?

Answer: True ??

984.

Which of the following events will cause a thread to die?

Which of the following events will cause a thread to die?

170. Which of the following events will cause a thread to die?

- (a) The method sleep() is called**
- (b) The method wait() is called**
- (c) Execution of the start() method ends**
- (d) Execution of the run() method ends.**

ANSWER : D

985.

What is Wired Equivalent Privacy (WEP) ?

- a) security algorithm for ethernet
- b) security algorithm for wireless networks**
- c) security algorithm for usb communication
- d) none of the mentioned

986.

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

987.

What is the number of maxterms in a function of n variables?

Answer: The number of possible max terms possible for n variable : 2^n

The number of possible min terms possible for n variable : 2^n

988. What is the purpose of the mimeType property of a plug-in entry?

- a. Contains MIME properties
- b. Contains MIME sizes
- c. Contains MIME types**
- d. None of the mentioned

Answer : c

989. A method within a class is only accessible by classes that are defined within the same package as the class of the method. Which one of the following is used to enforce such restriction?

- (a) Declare the method with the keyword public
- (b) Declare the method with the keyword private
- (c) Declare the method with the keyword protected
- (d) Do not declare the method with any accessibility modifiers**
- (e) Declare the method with the keyword public and private

Reason: The desired accessibility is package accessibility, which is the default accessibility for members that have no accessibility modifier. Package is not an accessibility modifier.

990.

How many output lines are present in an encoder with 2^n input lines?

ANSWER: n

991.

-----**DENSE**-----index has an entry for every search key value (and hence every record) in the data file

992.

A subset of a network that includes all the routers but contains no loops is called:

a) spanning tree

b) spider structure

c) spider tree

d) none of the mentioned

Answer: a

993.

AJAX has become very commonly used because

- a) It allows pages to be interactive without further communication with the server.
- b) Xml is a close relative of html.
- c) It avoids the need for javascript.
- d) **It allows page content to be updated without requiring a full page reload.**

994.

If link transmits 4000 frames per second, and each slot has 8 bits, the transmission rate of circuit this TDM is

a) 32kbps

b) 500bps

c) 500kbps

d) None of the mentioned

995.

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)`?

(a) aaaaa

(b) aaaa

(c) aaa

(d) aa

(e) invalid call.

Reason : Invalid call because char 'a' cannot be passed to string message

996.

Which flip flop has the characteristic function $Q(\text{next}) = \text{input}$

997.

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?

Two-Phase Locking Techniques: Essential components

☐ Two locks modes:

☐ (a) shared (read) (b) exclusive (write).

☐ **Shared mode: shared lock (X)**

More than one transaction can apply share lock on X for its value but no write lock can be applied on X by any other transaction.

998.

Which of the following is not a reason XML gained popularity as a data interchange format for AJAX?

- a) It has been around a while and libraries exist for many languages to work with it
- b) It can be navigated using JavaScript DOM methods.
- c) It is extensible, allowing it to be adapted to virtually any application.

d) It is concise and simple to use.

999.

The performance of cache memories is measured by

Answer: hit ratio

1000.

Lock manager uses -----**LOCK TABLE**----- to store the identify of transaction locking a data item, the data item, lock mode and pointer to the next data item locked.

1001.

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) None of the mentioned

1002.

Which method must be defined by a class implementing the *java.lang.Runnable* interface?

Answer: public void run()

1003.

The jQuery AJAX methods .get(), .post(), and .ajax() all require which parameter to be supplied?

- a) method
- b) url**
- c) data
- d) headers

1004.

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.

1005.

```
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 ?

- A. Thread t = new Thread(X);
- B. Thread t = new Thread(X); t.start();
- C. X run = new X(); Thread t = new Thread(run); t.start();**
- D. Thread t = new Thread(); x.run();

Answer: Option C

1006.

-----AGGREGATE FUNCTION-----is used to summarize information from multiple tuples into a single-tuple summary

1007.In negative edge triggered flip flop, the transitions happen at

1008. 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

- [A]. 0.003
- [B]. 0.009 ✓
- [C]. 0.991
- [D]. 0.999
- [E]. None of the above

1009.

In ER- Relational Mapping, Binary 1:1 Relationship types are mapped to

1010.

Which method is used to call the base class methods from the subclass?

super

1011.

Nested documents in the HTML can be done using

1012.

The race condition in RS flip flop is rectified in which flip flop

Master Slave JK Flip Flop

1013.

Frames from one LAN can be transmitted to another LAN via the device

Bridge

1014.

A new web browser window can be opened using which method of the Window object ?

createtab()

b. Window.open()

c. open()

d. All of the mentioned

1015.

Answer the following question based on the given table.

Package Name	Class Name
Lab.project.util	Date, Time
Lab.project.game	Car, Puzzle

What will be the access modifier if a method in Date class is inherited in the Puzzle class?

1016.

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?

255.255.252.0 (/10)

1017.

-----contains information such as the structure of each file, the type and storage format of each data item, and various constraints on the data

DBMS Catalog

1018.

What does the command XCHG in 8085 do?

Exchange H and L with D and E. The contents of register H are exchanged with the contents of register D, and the contents of register L are exchanged with the contents of register E.

1019.

Which of the following digits are known as the sub-address digits (for use by the user) of the Network User Address (NUA)?

5-7

[B]. 1-4

[C]. 8-12

[D]. 13-14

1020.

What statement is used to execute stored procedure in Java JDBC

```
CallableStatement cstmt = null;

try {

    String SQL = "{call getEmpName (?, ?)}";

    cstmt = conn.prepareCall (SQL);

    ...

}

catch (SQLException e) {

    ...

}

finally {

    ...

}
```

1021.

Which object serves as the global object at the top of the scope chain?

- a) Hash
- b) Property
- c) Element

d) Window

Answer: d

Explanation: The Window object serves as the global object at the top of the scope chain in client-side JavaScript.

1022.

If the operand of stack operation is register, the stack contents in 8085 store which of the following?

1023.

Who is responsible for correlating the different perspectives of distinct users?

1024. A modulator converts a _____ signal to a(n) _____ signal.

- A. FSK; PSK
- B. PSK; FSK
- C. analog; digital
- D. digital; analog**
- E. None of the above

1025.

In 8085 subtraction is performed using which method?

Answer: by the 2's complement method

1026.

Data Model that provides ad-hoc queries is -----

1027.

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) {
    System.out.println(num);
}
}

```

(a) The program has a syntax error because the two methods m have the same signature

- (b) The program has a syntax error because the second m method is defined, but not invoked in the main method
- (c) The program runs and prints 2 once
- (d) The program runs and prints 2 twice
- (e) The program runs and prints 2 thrice.

1028.

What does the location property represent?

- a) Current DOM object**
- b) Current URL
- c) Both DOM object and URL
- d) None of the mentioned

1029.

Which among the following is not a property of the Location object?

- a) protocol
- b) host

c) hostee

- d) hostname

Explanation: The various properties of the location object are the protocol, host, hostname, port, search, and hash.

1030.

What is the number of distinct symbols in base-16 ?

Answer: 16

1031.

What is the loopback address?

Answer: type of IP address that is used to test the communication or transportation medium on a local network card and/or for testing network applications. Special ip address 127.0.0.1

1032.

A state that refers to the database when it is loaded is---- **Initial Database State** -----

1033.

Consider the following code:

```
public class Test {  
    public static void main(String[] args) {  
        int[] x = new int[5];  
        int i;  
        for (i = 0; i < x.length; i++)  
            x[i] = i;  
        System.out.println(x[i]);  
    }  
}
```

- (a) The program displays 0 1 2 3 4
- (b) The program displays 4
- (c) The program has a runtime error because the last statement in the main method causes `ArrayIndexOutOfBoundsException`
- (d) The program has syntax error because i is not defined in the last statement in the main method**
- (e) The program displays 1 2 3 4 5.

1034.

How many bits are present in registers A, B, C together in 8085?

Answer: 24 – (3 x 8)

1035.

What is the return type of the hash property?

The hash property sets or returns the anchor part of a URL

1036.

----- 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

1037.

A 4 KHz noise less channel with one sample every 125 per 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?

A. 32 Kbps

B. 64 Kbps

C. 8 Kbps

D. 128 Kbps.

1038.

What will be the value of c at the end of execution?

```

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); }

```

ERROR two

1039.

What does the instruction INX H perform in 8085 microprocessor?

Increment register pair by 1.

Eg: INX H (It means the location pointed by the HL pair is incremented by 1)

1040.

Which is the method that removes the current document from the browsing history before loading the new document?

- a) modify()
- b) assign()
- c) replace()**
- d) remove()

1041.

Which method is used for loading the driver in Java JDBC.

Answer: . Class.forName()

1042.

What is the minimum number of wires required for sending data over a serial communications links?

A. 1

B. 2 (answer)

C. 4

D. 6

1043. -----**EXTERNAL SCHEMA**-----describes the the part of the database that a particular user group is interested in and hides the rest.

1044.

Which one is the first high level programming language

1045.

The 8255 chip is an example of

1046.

----- is used to define internal schema

1047.

Why is the replace() method better than the assign() method?

1048.

In cyclic redundancy checking, the divisor is _____ the CRC.

A) The same size as

B) one bit less than

C) one bit more than

D) none of the above

1049.

Centralized DBMS has-----

A centralized database (sometimes abbreviated CDB) is a database that is located, stored, and maintained in a single location.

1050.

What is 8254 used for?

The Intel 8253 and 8254 are Programmable Interval Timers (PITs), which perform timing and counting functions using three 16-bit counters.

1051.

An error-detecting code inserted as a field in a block of data to be transmitted is known as

A. Frame check sequence

B. Error detecting code

C. Checksum

D. flow control

E. None of the above

1052. When a class extends the Thread class, it should override method of Thread class to start that thread.

A. start()

B. run()

C. init()

D. go()

1053. What is the purpose of the assign() method?

a) Only loading

b) Loading of window and display

c) Displays already present window

d) Unloading of window

The **assign()** method of the Location object makes the window load and display the document at the URL you specify.

1054.

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)

A. 1 and 3

B. 2 and 4

C. 1 and 2

D. 2 and 5

1055.

Working of the WAN generally involves

A. telephone lines

B. microwaves

C. satellites

D. All of the above

1056.

How many modes are present in 8255 and what are they?

1. Bit Set/Reset mode (BSR mode).

2. Input/Output mode (I/O mode). –

- **Mode 0 - Simple I/O**

- **Mode 1 - Strobed I/O**
- **Mode 2 - Strobed Bi-directional I/O**

1057.

The history property belongs to which object?

- a) Element
- b) Window
- c) History**
- d) Location

Explanation: The history property of the Window object refers to the History object for the window.

1058.

An Employee entity of a company database can be a SECRETARY, TECHNICIAN or MANAGER.

What kind of participation constraint can be used for Employee and its job types?

1059.

```
public class MyRunnable implements Runnable
{
    public void run()
    {
        // some code here
    }
}
```

which of these will create and start this thread?

- [A]. `new Runnable(MyRunnable).start();`
- [B]. `new Thread(MyRunnable).run();`
- [C]. `new Thread(new MyRunnable()).start();` ✓**
- [D]. `new MyRunnable().start();`

1060.

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.

- A. Network Properties dialog box**
- B. Server Services dialog box
- C. DHCPINFO command-line utility
- D. Advanced Properties tab of TCP/ IP Info.
- E. None of the above

1061.

Which of the following is one of the fundamental features of JavaScript?

a) Single-threaded

- b) Multi-threaded
- c) Both Single-threaded and Multi-threaded
- d) None of the mentioned

Explanation: One of the fundamental features of client-side JavaScript is that it is single-threaded: a browser will never run two event handlers at the same time, and it will never trigger a timer while an event handler is running, for example.

1062.If we can determine exactly those entities that will become members of each subclass by a condition then such subclasses are called----- **predicate-defined** -----

1063.

Which of the following is DMA controller?

1064.

Given the code

String s1 = ? VIT? ;

String s2 = ? VIT ? ;

String s3 = new String (s1);

Which of the following would equate to true?

- (A) s1 == s2
- (B) s1 = s2
- (C) s3 == s1
- (D) s1.equals(s2)
- (E) s3.equals(s1)

a) (A), (D) & (E)

- b) (A), (C) & (E)
- c) (A), (B) & (C)
- d) (C), (D) & (E)
- e) (D) & (E)

1065.

The expected size of the join result divided by the maximum size is called

_____.

1066.

Four bits are used for packet sequence numbering in a sliding window protocol used in a computer network. What is the maximum window size?

(a) 4

(b) 15

- (c) 8
(d) 16.

1067.
OOPs

Find the output of the following program?

```
#include
#define pow(x) (x)*(x)*(x)
using namespace std;

int main()
{
    int a=3,b=3;
    a=pow(b++)/b++;
    cout<<a<<b;
    return 0;
}
```

Answer: 107

1068.

How many gate delays are present in efficient implementation of XOR gate ?

1069.

. The attributes in foreign key and primary key have the same _____.

1070.

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;
    }
}
```

Answer: 20

1071.

What is the correct HTML for making a hyperlink?

** text**

1072.

Error control is needed at the transport layer because of potential errors occurring _____.

A. from transmission line noise

B. in routers

- C. from out-of-sequence delivery
- D. from packet losses.

1073.

How many possible outcome values are present in boolean algebra?

Answer: 2

1074.

Determine the output of the following code?

```
#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;
}
```

Answer: 5555

1075.

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.

- A. $K / K - P$
- B. $1 / K - P$**
- C. $K / K(1 + p)$
- D. $p / K + 1$

1076.

____ **Naïve or parametric end users** ____ users work on canned transactions

1077.

Which of the following input controls that cannot be placed using tag?

1078.

What does JSP stand for?

Answer: Java Server Pages

1079.

What will be the output of the following program?

```
#include
using namespace std;
```

```
class x {
public:
int a;
x();
};
x::x() { a=10; cout<
```

```
class b:public x {
public:
b();
};
b::b() { a=20; cout<
```

```
int main ()
{
b temp;
return 0;
}
```

Answer: 10 20

1080.

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?

Answer: Composite

1081.

The SQL statement `SELECT SUBSTR('123456789', INSTR('abcbabc', 'b'), 4)`
`FROM EMP;` prints

The SQL statement

```
SELECT SUBSTR('123456789', INSTR('abcbabc', 'b'), 4) FROM DUAL;
```

A. 6789

B. 2345

C. 1234

D. 456789

1082.

Find the output of the following program?

```
#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;
}
```

Answer: 3-333/ 3425379433

1083.

___ **SELECTORS** ___ is used to define a special CSS style for a group of HTML elements

1084.

In HTTP, which method gets the resource as specified in the URI - **GET**

1085.

JAVA PROGRAMMING

Java package is a grouping mechanism with the purpose of

1086.

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

1087.

Which of the following is the right syntax for assertion?

Create assertion 'assertion-name' check 'predicate';

1088.

Which of these is Server side technology?

1089.

Which one of these lists contains only Java programming language keywords

- A. class, if, void, long, Int, continue
- B. goto, instanceof, native, finally, default, throws**
- C. try, virtual, throw, final, volatile, transient
- D. strictfp, constant, super, implements, do
- E. byte, break, assert, switch, include

Answer: Option B

1090.

. **FLASH MEMORY** _____ 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.

1091.

Which of these interface abstracts the output of messages from httpd?

- a) LogMessage**
- b) LogResponse
- c) Httpdserver
- d) httpdResponse

1092.

The C++ language is

1093.

Passing the request from one schema to another in DBMS architecture is called as
_____ **MAPPING** _____

1094.

Where in an HTML document is the correct place to refer to an external style sheet?

Answer: In the <head> section

1095.

Changing the conceptual schema without having to change the external schema is called as
_____ **LOGICAL INDEPENDENCE** _____

1096.

Which method is used to remove the first element of an Array object?

Answer: Shift

1097.

What does the following bit of JavaScript print out?

```
var a = [1,,3,4,5];
```

```
console.log([a[4], a[1], a[5]]);
```

Output - 5,null,undefined

1098.

Creating a B Tree index for your database has to specify in ____.

- a. DDL**
- b. SDL
- c. VDL
- d. TCL

1099.

Which one of the following statements is NOT correct about HTTP cookies?

- A. A cookie is a piece of code that has the potential to compromise the security of an Internet user**
- B. A cookie gains entry to the user's work area through an HTTP header
- C. A cookie has an expiry date and time
- D. Cookies can be used to track the browsing pattern of a user at a particular site

1100.

The following HTML attribute is used to specify the URL of the html document to be opened when a hyperlink is clicked.

Answer: HREF

1101.

HTTP is implemented over - **TCP**

1102.

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

1103.

AJAX made popular by

- Option A):** Sun Micro system
- Option B):** Google
- Option C):** IBM
- Option D):** Microsoft

1104.

How to create a Date object in JavaScript?

dateObjectName = new Date([parameters])

1105.

Output-----?

1106.

Choose the correct HTML tag to make a text italic

Answer: <i></i>

1107.

table {color: blue;}

With the above code snippet in use, what happens to a table?

- a) The table border would be colored blue.
- b) The table background would be colored blue.

c) The text inside the table would be colored blue

1108.

What sever support AJAX ?

1109.

What does the XMLHttpRequest object accomplish in 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.

1110.

Which Web browser is the least optimized for Microsoft's version of AJAX?

SAFARI

1111.

Which one of these technologies is NOT used in AJAX?

A. CSS

B. DOM

C. DHTML

D. Flash

1112.

When a user views a page containing a JavaScript program, which machine actually executes the script?

The User's machine running the web browser

1113.

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)?

(A) Q needs to send at least 2 HTTP requests to S, each necessarily in a separate TCP connection to server S

(B) Q needs to send at least 2 HTTP requests to S, but a single TCP connection to server S is sufficient

(C) A single HTTP request from Q to S is sufficient, and a single TCP connection between Q and S is necessary for this

(D) A single HTTP request from Q to S is sufficient, and this is possible without any TCP connection between Q and S

1114.

How does servlet differ from CGI?

Servlets are thread based and CGI is process based

Servlet is light weight.

1115.

What does JSP stand for?

Java Server Pages

1116.

Which of these is a stand alone tag?

**
**

Standalone tags are used for elements which have no logical beginning or end.

**One example of a standalone tag is the
 tag,**

1117.

If you don't want the frame windows to be resizable, simply add what to the lines ?

noresize

1118.

<a> and are the tags used for ?

Adding links to your page