



GATE 2023

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**Memory based
Questions
& Solutions**



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**Exam held
on 04th Feb, 2023
Forenoon
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SECTION - A

GENERAL APTITUDE

Q.1 We reached the station late, and ____ missed the train

- (a) Mostly (b) Near
(c) Utterly (d) Nearly

Ans. (d)

End of Solution

Q.2 Kind : ____ :: often : frequently

- (a) Type (b) Cruel
(c) Mean (d) Kindly

Ans. (a)

End of Solution

Q.3 90% of the pregnant women take medical care atleast once before child birth. Out of them, 60% took medical care from doctors while the remaining took medical care from health providers.

What can be logically inferred from this?

- (a) More than half of the pregnant women took medical care atleast once before child birth.
(b) More than half of the pregnant women took medical care atmost once before child birth.
(c) Exactly half of the pregnant women took medical care atleast once before child birth.
(d) Atleast half of the pregnant women took medical care atmost once before child birth.

Ans. (a)

End of Solution

Q.4 $f(x)$ and $g(y)$ are function of x and y , respectively and $f(x) = g(y)$ for all real values of x and y . Which one of the following options is necessary true?

- (a) $f(x) = 0$ and $g(y) = 0$
(b) $f(x) = g(y) = \text{constant}$
(c) $f(x) + g(y) = f(x) - g(y)$
(d) $f(x) \neq \text{constant}$ and $g(y) \neq \text{constant}$

Ans. (b)

End of Solution

- Q.5** Suppose you look at a three-dimensional figure. Which of the following must necessarily be true?
- (a) All parts are concave
 - (b) All parts are convex
 - (c) The figure can have edges but no corners
 - (d) Some parts may be concave and some may be convex

Ans. (d)

End of Solution





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SECTION - B

TECHNICAL

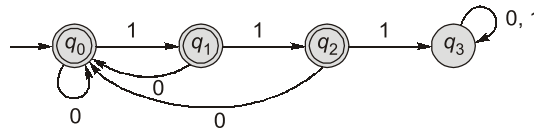
- Q.6** Which of the following is true?
- (a) The intersection of two recursively enumerable languages is recursively enumerable.
 - (b) The intersection of two context free languages is context free.
 - (c) The intersection of two recursive languages is recursive.
 - (d) The intersection of two regular languages is regular.

Ans. (a, c, d)

End of Solution

- Q.7** Consider the following language $L = \{w \in \{0, 1\}^* \mid w \text{ does not contains three or more consecutive 1's}\}$. The number of states in minimal DFA that accepts L is _____.

Ans. (4)



End of Solution

- Q.8** Consider the following grammar:

$$S \rightarrow aSb \mid X$$

$$X \rightarrow aX \mid Xb \mid a \mid b$$

What can be said about the language generated by the grammar?

- (a) The regular expression for language generated by the grammar is $a^*(a + b)b^*$
- (b) The language generated by the grammar is non-regular
- (c) The regular expression for language generated by the grammar is $a^* b^*(a + b)$
- (d) The regular expression for language generated by the grammar is $(a + b)^*$

Ans. (a)

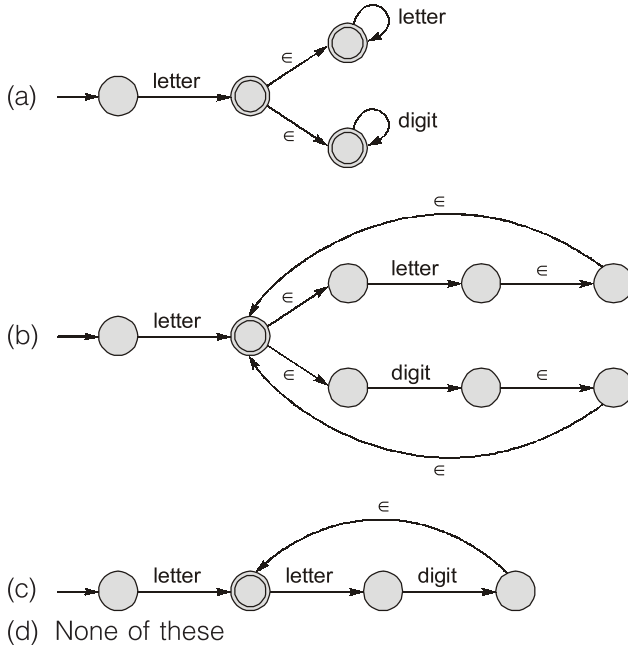
$$S \rightarrow X \rightarrow a^m b^n \mid m, n \geq 1$$

$$S \rightarrow a^k X b^k \mid k \geq 0$$

So, $S \rightarrow a^*(a + b)b^*$

End of Solution

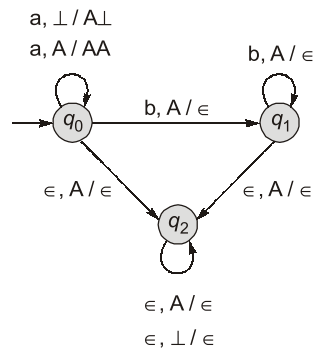
Q.9 Consider the regular expression:
Letter (Letter/Digit)*
What will be the NFA for the given regular expression?



Ans. (b)
(a) *II* not possible
(c) *III* not possible

End of Solution

Q.10 The language accepted by the following PDA:



- (a) $\{a^m b^n \mid 1 \leq m \text{ and } n < m\}$ (b) $\{a^m b^n \mid 1 \leq m \text{ and } n \leq m\}$
 (c) $\{a^m b^n \mid 1 \leq m \text{ and } m \leq n\}$ (d) $\{a^m b^n \mid 1 \leq m \text{ and } m < n\}$

Ans. (a)

Stack is empty only at stack q_2 .

1. on reaching q_2 from q_0 , atleast one A requires in stack. Same from state q_1 to q_2 .
And A inserted only on reading a .

So atleast are a .

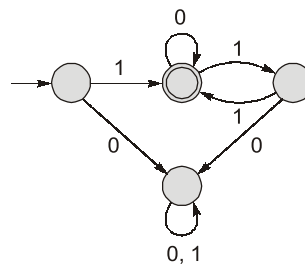
2. at q_0 , on reading a , A inserted in stack.

3. at q_1 , one reading of b , other b are not necessary.

So, $L = \{a^m b^n \mid 1 \leq m \text{ and } n < m\}$

End of Solution

Q.11 The regular expression for the given transition diagram is



(a) 11^*0

(c) $0(0 + 11)^*$

(b) $(0 + 1)^*$

(d) $1(0 + 11)^*$

Ans. (d)

End of Solution

Q.12 Which of the following CPU scheduling algorithm can potential cause starvation?

(a) FCFS

(b) SJF

(c) Priority scheduling

(d) Round Robin

Ans. (b, c)

End of Solution



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Q.13 Consider a computer system with 57 bit virtual address using multilevel page tables with L levels for virtual to physical address translation. The page size is 4 KB and page table entry at any of the levels occupy 8 bytes. What is the value of L ?

Ans. (5)

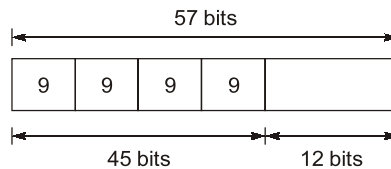
$$\begin{aligned} \text{Offset} &= \log_2(\text{Page size}) \\ &= \log_2(4 \text{ KB}) = 12 \text{ bits} \\ \text{PTE} &= 8 \text{ bytes} \end{aligned}$$

For every level page table should fit into a page.

$$\text{So, number of entries in a page} = \frac{4 \text{ KB}}{8 \text{ B}} = 2^9$$

$$\text{Bits for a level} = \log_2(2^9) = 9 \text{ bits}$$

Following is representation



So, 5 levels required.

End of Solution

Q.14 Which one or more of the following option guarantee that a computer system transit from user mode to kernel mode

- (a) Page fault
- (b) System call
- (c) Malloc call
- (d) Function call

Ans. (a, b)

End of Solution

Q.15 Which one of more of the following need to be saved on context switch form one thread (T1) of a process to another thread (T2) of the same process?

- (a) Program counter
- (b) Stack pointer
- (c) General purpose register
- (d) Page table base register

Ans. (a, b, c)

End of Solution

- Q.16** Which one of the option given below refers to the degree of relation in relational database systems?
- (a) Number of distinct domains of its relation schema.
 - (b) Number of attributes of its relation schema.
 - (c) Number of entries in the relation.
 - (d) Number of tuples stored in the relation.

Ans. (b)

End of Solution

- Q.17** Consider following relation student, primary key is Roll Num.

Student			
Roll Num	Name	Gender	Marks
1	Naman	M	62
2	Aliya	F	70
3	Aliya	F	80
4	James	M	82
5	Swati	F	65

The SQL query below executes on above relation instance

Select * from student

where gender = "F" and

marks > 65;

Number of row returned by above query?

Ans. (2)

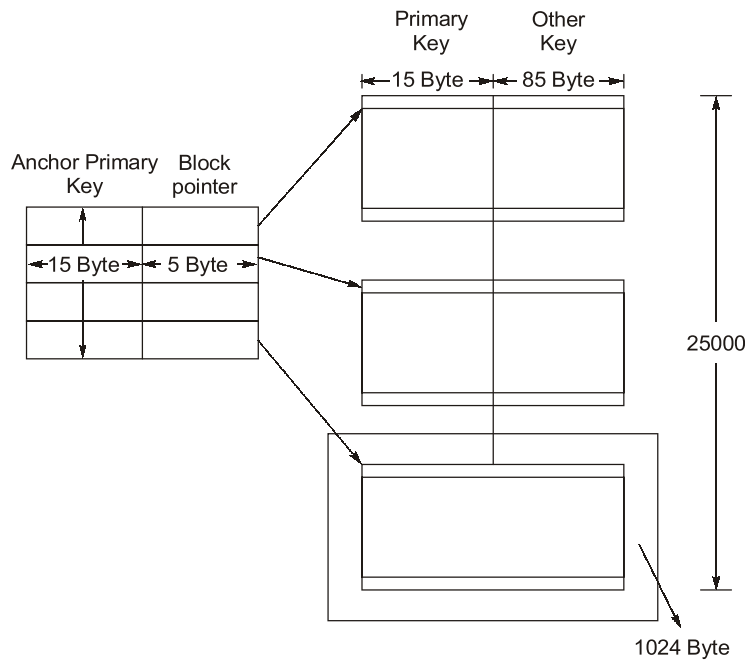
Roll Num	Name	Gender	Marks	
1		M		M ×
2		F		✓
3		F		✓
4		M		M ×
5		F	65	Not greater than 65 ×

Returned relation

Roll Num	Name	Gender	Marks
2	Aliya	F	20
3	Aliya	F	80

End of Solution

- Q.18** Total number of records are 25000,
Record sizes is 100 Bytes
Block size is 1024 Byte,
Key size = 15 Byte,
Block pointer size = 5 Byte,
A record should be in single block.
For searching a primary key use binary search.
Maximum number of blocks required to access to a pointer for a record using primary index?



Ans. (b)

End of Solution

- Q.19** $F_x = x^3 + 15x^2 - 33x - 36$ for all real value then which of the following is correct?
 (a) F_x has local minima
 (b) F_x does not have local minima
 (c) F_x has local maxima
 (d) F_x does not have local maxima

Ans. (a, c)

End of Solution



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Q.20 $\int_{-3}^3 \int_{-2}^2 \int_{-1}^1 (4x^2y - z^3) dz dy dx$ _____.

Ans. (0)

End of Solution

Q.21 $A = \begin{bmatrix} 1 & 2 & 3 & 4 \\ 4 & 1 & 2 & 3 \\ 3 & 4 & 1 & 2 \\ 2 & 3 & 4 & 1 \end{bmatrix}$ $B = \begin{bmatrix} 3 & 4 & 1 & 2 \\ 4 & 1 & 2 & 3 \\ 1 & 2 & 3 & 4 \\ 2 & 3 & 4 & 1 \end{bmatrix}$

- (a) $|A| = -|B|$
 (b) $|AB| = |A| + |B|$
 (c) $|B| = |A|$
 (d) $|A| = 0$

Ans. (a)

End of Solution

- Q.22 2 coins tossed
 A be event HEAD on both toss
 B be event HEAD on 1st toss
 C be event HEAD on 2nd toss
 Which of the following is/are true?
 (a) A and C are independent
 (b) B and C are independent
 (c) A and B are independent
 (d) $P(B|C) = P(B)$

Ans. (b, d)

End of Solution

Q.23 $L_n = L_{n-1} + L_{n-2}$, $L_1 = 1$, $L_2 = 3$

(a) $L_n = \left(\frac{1+\sqrt{5}}{2}\right)^n + \left(\frac{1-\sqrt{5}}{2}\right)^n$ (b) $L_n = \left(\frac{1+\sqrt{5}}{2}\right)^n - \left(\frac{1-\sqrt{5}}{2}\right)^n$

(c) $L_n = \left(\frac{1+\sqrt{5}}{2}\right)^n - \left(\frac{1-\sqrt{5}}{3}\right)^n$ (d) $L_n = \left(\frac{1+\sqrt{5}}{2}\right)^n + \left(\frac{1-\sqrt{5}}{3}\right)^n$

Ans. (a)

$$L_n = L_{n-1} + L_{n-2}$$

$$t^2 - t - 1 = 0$$

$$t = \frac{1 \pm \sqrt{5}}{2}$$

$$L_n = C_1 \left(\frac{1+\sqrt{5}}{2}\right)^n + C_2 \left(\frac{1-\sqrt{5}}{2}\right)^n$$

$$L_1 = C_1 \left(\frac{1+\sqrt{5}}{2}\right)^1 + C_2 \left(\frac{1-\sqrt{5}}{2}\right)^1 = 1 \quad \dots(i)$$

$$L_2 = C_1 \left(\frac{1+\sqrt{5}}{2}\right)^2 + C_2 \left(\frac{1-\sqrt{5}}{2}\right)^2 = 3 \quad \dots(ii)$$

From equation (i) and (ii)

$$C_1 = 1 \text{ and } C_2 = 1$$

So,

$$L_n = \left(\frac{1+\sqrt{5}}{2}\right)^n + \left(\frac{1-\sqrt{5}}{2}\right)^n$$

End of Solution

Q.24 A series of natural number $F_1, F_2, F_3, F_4, F_5, F_6, F_7, \dots$ obeys $F_{n+1} = F_n + F_{n-1}$ for all integers where $n \geq 2$. If $F_6 = 37$ and $F_7 = 60$ then F_1 is _____.

- (a) 5 (b) 9
(c) 8 (d) 4

Ans. (d)

$$F_{n+1} = F_n + F_{n-1}$$

$$F_7 = F_6 + F_5$$

$$60 = 37 + F_5, \quad F_5 = 23$$

$$F_6 = F_5 + F_4, \quad F_4 = 14$$

$$F_5 = F_4 + F_3, \quad F_4 = 9$$

$$F_4 = F_3 + F_2, \quad F_2 = 5$$

$$F_3 = F_2 + F_1, \quad F_1 = 4$$

End of Solution

- Q.25** Let x be a set, 2^x denote the power set of x . Define binary operation Δ on 2^x as follows.
 $A \Delta B = (A - B) \cup (B - A)$
 A, B are elements of 2^x . Let $H = (2^x, \Delta)$ which of the following statement is/are correct for H ?
- (a) For every $A \in 2^x$, the inverse of A is A .
 - (b) Every element in H has an inverse, but H is not a group.
 - (c) For every $A \in 2^x$, the inverse of A is the complement of A .
 - (d) H is a group.

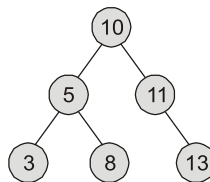
Ans. (a, d)

End of Solution

- Q.26** Consider the following C code for binary tree and function foo

```
typedef struct node {
    int val;
    struct node * left, * right;
};
into foo (node *p)
{
    int retval;
    if (p == Null)
        return 0;
    else
    {
        retval = p -> val + foo (p -> left) + foo (p -> right);
        printf("%d ", retval);
    }
    return retval;
}
```

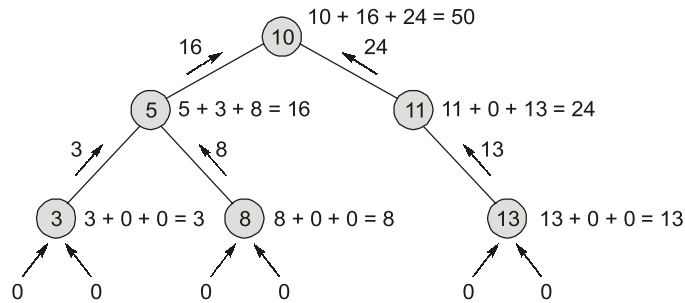
The pointer to the root of below tree is passed to the function foo



What is the output printed?

Ans. (8)

function foo() uses post order traversal.



Printed output is 3 8 16 13 24 50

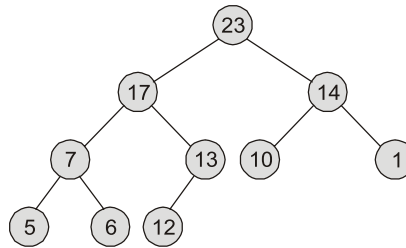
End of Solution

Q.27 Which one of the following sequences when store in an array at locations A[1] to A[10] forms a max-heap.

- (a) 23, 14, 19, 1, 10, 13, 16, 12, 7, 5
- (b) 23, 17, 14, 7, 13, 10, 1, 5, 6, 12
- (c) 23, 17, 10, 6, 13, 14, 1, 5, 9, 12
- (d) 23, 17, 14, 6, 13, 10, 1, 5, 7, 15

Ans. (b)

Following is max heap



End of Solution



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Q.28 Integer value printed in ANSI-C program.

```
#include <stdio.h>
    int fun( ) {
        static int x = 1;
        x++;
        return x;
    }
int main( ) {
    int x, y;
    x = fun( );
    y = fun( ) + x;
    printf("%d\n", (x + y))
    return 0;
}
```

Ans. (7)

x in `fun()` is static

$x = 1$

`fun()` → $x = 2$

in `main()` → $x = 2$

`fun()` → $x++$, so, $x = 3$

in `main()`

$$y = 3 + 2 = 5$$

↓

from x of `main`

from x of `main`

from `main()`

$$x + y = 2 + 5 = 7$$

End of Solution

Q.29 A is a priority queue implemented using max heap. `Extract-max(A)` = Extract and delete the max elements, `Insert(A, key)` - Insert-key in A . Then worst case time complexity of `Extract-max(A)` and `Insert(A, key)` respectively.

[**Note:** properties of heap should be maintained at end of each operation].

(a) $O(\log n)$, $O(\log n)$

(b) $O(1)$, $O(n)$

(c) $O(1)$, $O(\log n)$

(d) $O(1)$, $O(1)$

Ans. (a)

On deletion of root, percolation down can take $O(\log n)$ time.

On insertion, percolation up can take $O(\log n)$.

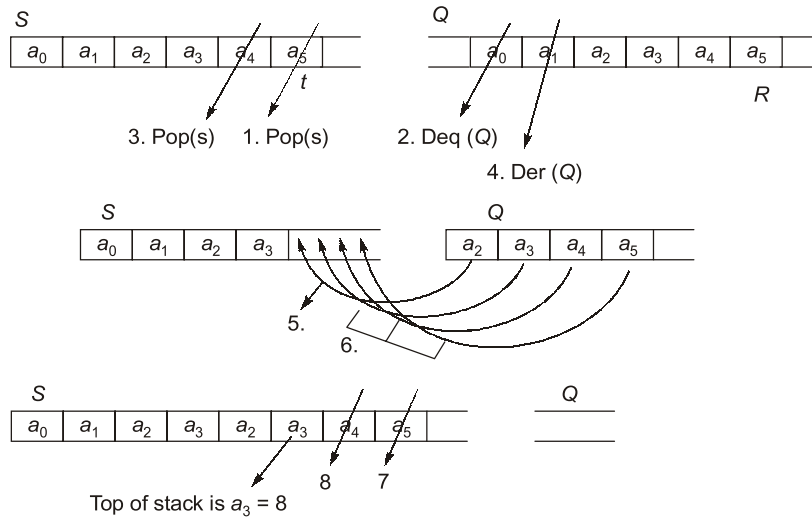
End of Solution

Q.30 Consider empty stack S and queue Q :
 Let $a_0 = 1, a_1 = 5, a_2 = 7, a_3 = 8, a_4 = 9, a_5 = 10$.
 Push $a_0, a_1, a_2, a_3, a_4, a_5$ in S in given order. Enqueue $a_0, a_1, a_2, a_3, a_4, a_5$ in Q in given order. Then perform following operations

1. Pop from S
2. Dequeue from Q
3. Pop from S
4. Dequeue from Q
5. Dequeue from Q and push that element in S
6. Repeat 3 times step 5
7. Pop from stack
8. Pop from stack

Then element at top of the stack S is _____?

Ans. (8)



End of Solution

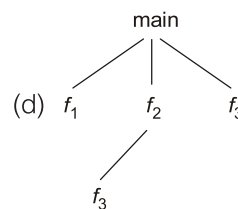
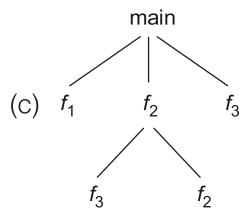
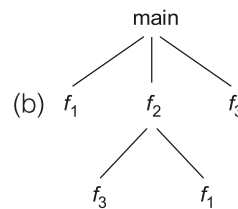
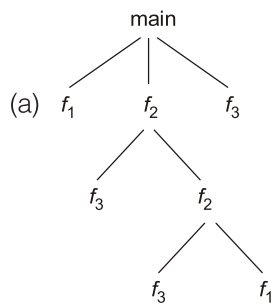
Q.31 Consider the following C functions. Which of the following shows correct activation tree on calling main() function.

```
int f1( )
{
return 1;
}
```

```
int f2(int x)
{
f3( );
if (x == 1)
f1( );
else
return x * f2(x - 1);
}
```

```
int f3( )
{
return 2;
}
```

```
main( )
{
f1( ); f2(2); f3( );
}
```



Ans. (a)

End of Solution



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Q.32 Consider the following SDT:

$$\begin{aligned} N &\rightarrow I \# F && (N.val = I.val + F.val) \\ I &\rightarrow I_1 B && (I.val = 2 * I_1.val + B.val) \\ I &\rightarrow B && (I.val = B.val) \\ F &\rightarrow B F_1 && (F.val = \frac{1}{2} (B.val + F.val)) \\ F &\rightarrow B && (F.val = \frac{1}{2} (B.val)) \\ B &\rightarrow 0 && (B.val = 0) \\ B &\rightarrow 1 && (B.val = 1) \end{aligned}$$

For input 10#011 to above SDT, N.val is _____.

Ans. (2.375)

End of Solution

Q.33 3 Stage pipelined processor having a delay of 10 ns, 20 ns, 14 ns, for the 1st, 2nd and 3rd stages respectively. Assume there is no buffer delay and processor does not suffer from pipeline hazards. Assume 1 instruction is fetched on every cycle. The total execution time for 100 instruction on this processor is _____ ns.

Ans. (2040)

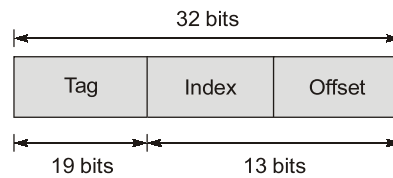
$$\begin{aligned} \text{Number of stages } (k) &= 3 \\ \text{Number of instruction } (n) &= 100 \\ \text{Clock period } (t_p) &= \max(10, 20, 14) = 20 \text{ ns} \\ \text{ET} &= (k + n - 1) \times t_p \\ &= (3 + 100 - 1) \times 20 \text{ ns} \\ &= 2040 \text{ ns} \end{aligned}$$

End of Solution

Q.34 8-way set associative cache of 64 KB (1 KB = 1024 bytes) is used in a system with bytes addressable main memory address of 32 bit. The address is sub divided into TAG, INDEXD and BLOCK OFFSET. Number of bits in TAG is _____?

Ans. (19)

$$\begin{aligned} \text{Cache size} &= 64 \text{ KB} \\ \text{8 way set associative.} \\ \text{Block size} &= \text{Not given} \\ \text{So, assume,} \\ \text{Word size} &= 1 \text{ Byte} \\ \text{Number of lines } (N) &= \text{Number of cell in CM} = 64 \text{ K} \\ \text{Number of sets } (S) &= \frac{N}{P\text{-way}} = \frac{64 \text{ K}}{8} = \frac{2^{16}}{8} = \frac{2^{16}}{2^3} = 2^{13} \\ \text{Index bits} &= \log_2(S) = \log_2(2^{13}) = 13 \text{ bits} \end{aligned}$$



End of Solution

Q.35 Let t and g be function of natural number given by $t(n) = n$ and $g(n) = n^2$. So, what is TRUE?

- (a) $t \in \theta(g)$ (b) $t \in O(g)$
(c) $t \in o(g)$ (d) $t \in \Omega(g)$

Ans. (b, c)

$$t(n) = n, g(n) = n^2$$

For large n ,

$$n \leq n^2, \text{ so } t(n) = O(g)$$

$$n < n^2, \text{ so } t(n) = o(g)$$

$C_1 n^2 < n < C_2 n^2$ is not possible,

So, $t(n) \neq \theta(g)$

$$n \neq Cn^2$$

So, $t(n) \neq \Omega(g)$

End of Solution

Q.36 Consider the following two function f and g :

$$f(t) = 0.01t^2$$

$$g(t) = 4t$$

$$0 < t < \infty$$

- (i) For some $t > 0$, $g(t) > f(t)$
(ii) There exists a T , such that $f(t) > g(t)$ for $t > T$
(a) Only (i) true (b) Only (ii) true
(c) Both true (d) Both false

Ans. (c)

Let, $t = 1$, then
 $f(1) = 0.01, g(1) = 4$
 $f(1) < g(1)$

So, (i) is true.

$$f(t) - g(t) > 0$$

$$0.01t^2 - 4t > 0$$

$$t\left(\frac{1}{100}t - 4\right) > 0 \text{ and } t > 0$$

So, $\frac{1}{100}t - 4 > 0$

$$t > 400$$

So, for $T \geq 400$, (ii) is true.

End of Solution

Q.37 Consider the following Pseudo code:

Fun1

```
While n > 1 do
  for i = 1 to n
    x = x + 1
  end for
  n = ⌈n/2⌉
end while
```

Fun2

```
for i = 1 to 100*n do
  x = x + 1
end for
```

f_1 and f_2 are the number of times statement “ $x = x + 1$ ” executes in Fun1 and Fun2 respectively. Then which of the following is correct?

- (a) $f_1 \in O(f_2)$ (b) $f_1 \in \theta(f_2)$
(c) $f_1 \in \omega(f_2)$ (d) $f_1 \in o(f_2)$

Ans. (a, b)

For Fun1, $t(n)$ times statement executes

$$t(n) = n + \frac{n}{2} + \frac{n}{4} + \dots + 1$$

For large n ,

$$t(n) = n \left(1 + \frac{1}{2} + \frac{1}{4} + \dots + 1 \right)$$

For $n \rightarrow \infty$

$$t(n) = n \left(\frac{1}{1 - \frac{1}{2}} \right) = 2n$$

For Fun2, let $r(t)$ times statement executes

$$r(t) = 100n$$

$$t(n) = \theta(r)$$

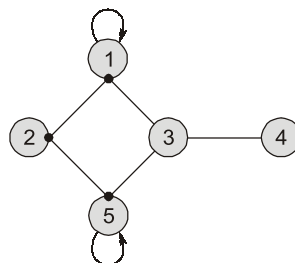
$$t(n) = O(r)$$

End of Solution

Q.38 A is adjacent matrix of graph below. $\lambda_1, \lambda_2, \lambda_3, \lambda_4$ and λ_5 are eigen values of A.

$\lambda_1 + \lambda_2 + \lambda_3 + \lambda_4 + \lambda_5 = \underline{\hspace{2cm}}$.

Note: $\lambda_1, \lambda_2, \lambda_3, \lambda_4$ and λ_5 may not be distinct.



Ans. (2)

$$A = \begin{matrix} & \begin{matrix} 1 & 2 & 3 & 4 & 5 \end{matrix} \\ \begin{matrix} 1 \\ 2 \\ 3 \\ 4 \\ 5 \end{matrix} & \begin{bmatrix} 1 & & & & \\ & 0 & & & \\ & & 0 & & \\ & & & 0 & \\ & & & & 1 \end{bmatrix} \end{matrix}$$

Sum of eigen values (A) = Trace of A

$$\lambda_1 + \lambda_2 + \lambda_3 + \lambda_4 + \lambda_5 = 1 + 0 + 0 + 0 + 1 = 2$$

Do not need to consider non-diagonal elements of A.

End of Solution

Q.39 Which of the following incorrect about OSPF routing protocol used in internet.

- (a) OSPF implements Bellman-Ford algorithm to find shortest paths.
- (b) OSPF implements hierarchical routing.
- (c) OSPF is used as inter-domain routing protocol.
- (d) OSPF uses Dijkstra's shortest path algorithm to implements least cost path routing.

Ans. (a, c)

End of Solution

Q.40 The forwarding table of a router is shown:

Submit No.	Submit mark	Interface ID
200.160.0.0	255.255.0.0	1
200.150.64.0	255.255.224.0	2
200.150.68.0	255.255.255.0	3
200.150.68.64	255.255.255.224	4
Default		0

A packet address to a destination address 200.150.68.118 arrives at the router. It will be forwarded to the interface with ID _____.

Ans. (d)

200.150.0100 0100.0111 0110

└──────────┘

255.255.1111 1111.0000 0000

200.150.0100 0100.0000 0000

└──────────┘

Longest prefix match

End of Solution

Q.41 Suppose you are asked to design a new reliable byte stream transport protocol like TCP. This protocol, named as myTCP, runs over a 100 mbps network with round trip time of 150 milliseconds and max segment lifetime of 2 minutes.

Which of following valid length of the sequence number field in the myTCP header?

- (a) 30 bit (b) 34 bit
(c) 32 bit (d) 36 bit

Ans. (b, c, d)

Bytes can be transmitted in 2 minutes

$$= \frac{100 \text{ mbps} \times 120 \text{ sec}}{8} = 1500 \times 10^6 \text{ B}$$

$$\text{Bits for sequence} = \lceil \log_2(1500 \times 10^6) \rceil = 31$$

End of Solution

Q.42 A link is point-to-point connected and using stop and wait protocol, which of the following correctly states lowest link utilization.

- (a) Lower link length and higher transmission rate.
(b) Lower link length and lower transmission rate.
(c) Higher link length and higher transmission rate.
(d) Higher link length and lower transmission rate.

Ans. (d)

$$\text{Propagation time } (t_p) = \frac{L}{V}$$

$$\begin{aligned} \text{Efficiency } (e) &= \frac{t_T}{t_T + 2 \times t_p} \\ &= \frac{1}{1 + \frac{2 \times t_p}{t_T}} = \frac{1}{1 + \frac{2 \times L}{V \times t_T}} \end{aligned}$$

Utilization $\propto e$

e is less or lower when L is high and t_T is high.

End of Solution



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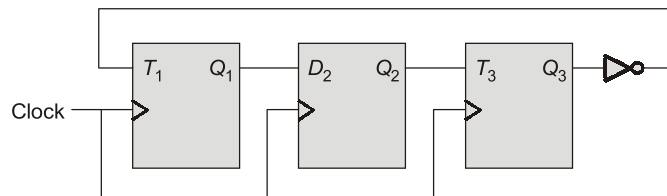
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Q.43 If $Q_1Q_2Q_3 = 011$ initially, then which of the following state $Q_1Q_2Q_3$ will not be produced by given counter:

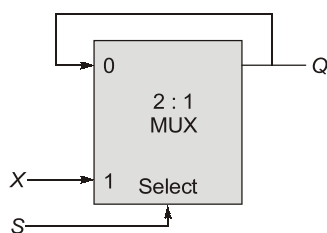


- (a) 111 (b) 100
(c) 101 (d) 001

Ans. (d)

End of Solution

Q.44 The output of multiplexer is correct to one of its input as shown below:



Which one of these is its functionally equivalent?

- (a) D flip-flop (b) D Latch
(c) Half adder (d) DeMUX

Ans. (b)

End of Solution

Q.45 If $(132)_4 = (X)_5$, then the value of X is _____.

Ans. (110)

End of Solution

Q.46 Consider IEEE : 754 single precision format:

$P = 0xC1800000$

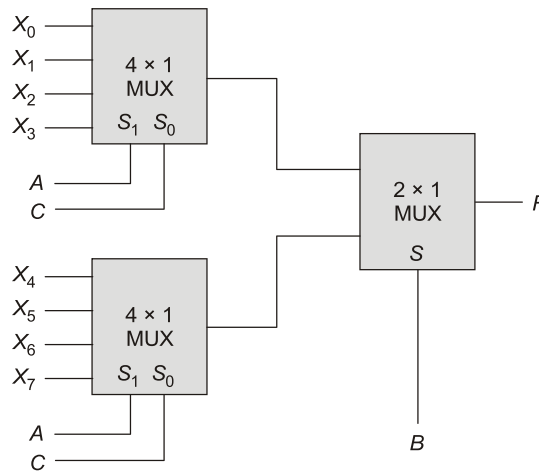
$Q = 0x3F5C2EF4$

$P \times Q = \underline{\hspace{2cm}}$? [Note: In IEEE-75 single precision format]

Ans. (C15C2EF4)

End of Solution

Q.47 Consider the following circuit:



$F = \bar{A} + \bar{A}C + A\bar{B}C$ then value of $X_0, X_1, X_2, X_3, X_4, X_5, X_6, X_7$ respectively are

Ans. (Sol.)

$$\begin{aligned} X_0 &= 1 \\ X_1 &= 1 \\ X_2 &= 0 \\ X_3 &= 1 \\ X_4 &= 1 \\ X_5 &= 1 \\ X_6 &= 0 \\ X_7 &= 0 \end{aligned}$$

End of Solution

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