





Nitish Kumar Gupta

Course: GATE Computer Science Engineering(CS)

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MY TEST

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⊕ REPORTS

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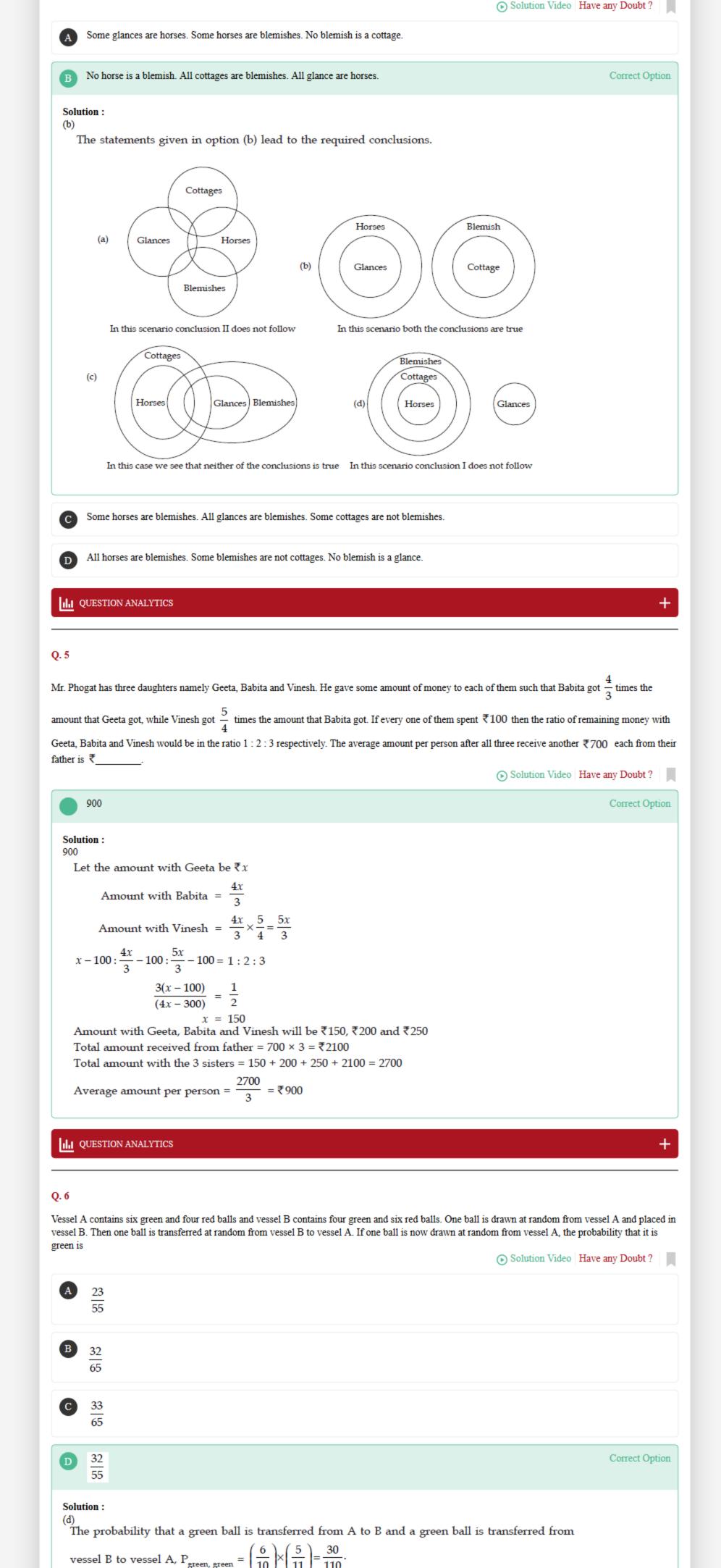
BOOK PACKAGES

FULL SYLLABUS TEST-8 (ADVANCE LEVEL) GATE 2019 - REPORTS

OVE:		
ALL 0	ERALL ANALYSIS COMPARISON REPORT SOLUTION REPORT	
(((65) CORRECT(26) INCORRECT(15) SKIPPED(24)	
2. 1		
	has been omitted from the sentence given below and it is to be filled with idiom(s), to make the sentences grammatically meaningfully correct.	
	he answer accordingly. gh Mr. Naipaul was, he never boasted about anything or try to use the resources available to him in an unethical way.	
	armchair traveller n with a silver spoon	
	g fish in a small pond Solution Video Have any Doubt?	į.
_		
A	Only 2	
В	Both 2 and 3 Your answer is Corre	ct
	ntion:	
anyw	mchair traveller' = Someone who reads books or watches TV programmes about other places and countries, but doesn't actually travel where. "Born with a silver spoon" = born into a very rich family. "A big fish in a small pond" = an important or highly-ranked person in a small up or organisation. Since, the sentence does not contain any reference about travelling, (1) cannot be true here.	
C	Both 1 and 3	
D	None of these	
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terse		
energ	getic 4. didactic Solution Video Have any Doubt ?	
	2 – 4	
A		
В	2 – 1	
C	3 – 2 Correct Option	on
Solu	ition:	
(c)	rich . "se' means brief/concise. 'Didactic' means instructional. Languid means 'weak or faint from illness or fatigue'. 'Energetic' means active/lively.	
	ice, 2 and 3 are the antonyms.	
	2 1	
D	3-1	
lata o	QUESTION ANALYTICS	_
ш `	QOEDITON MAREI NEO	
2		
parag aragra nancia npulsi pals. S	graph is given that has a blank in it. Four sentences (a), (b), (c), (d) are suggested. Out of these, only one fits the blank in the context of the aph. Pick that as the answer. The disciplined outlays for individual financial goals and systematic investing to achieve them can save us from mail dilemmas. They define a format to deal with a financial situation by taking a 360° view of the future impact of our decision. For example, an ive foreign holiday on credit can give way to a local vacation within our cash means while investing systematically for other important financial Similarly, saving money to purchase a depreciating electronic gadget is much preferable to buying the same instantly on a costly personal loan. It is good to allocate our earned income to important life goals first and then spend the remaining amount. Regular savings towards goals in minimizing costly debt and other dilemmas when we are nearing those goals.	l
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In the given question, a set of conclusions is given. There are four options comprising of three or more statements. You need to choose the option that contains the set of statements from which the given conclusions logically follow.

All horses cannot be cottages. No glance is a cottage.



Similarly other cases, $P_{green, red} = \left(\frac{6}{10}\right) \times \left(\frac{6}{11}\right) = \frac{36}{110}$. $P_{red, green} = \left(\frac{4}{10}\right) \times \left(\frac{4}{11}\right) = \frac{16}{110}$

$$P_{\text{red, red}} = \left(\frac{4}{10}\right) \times \left(\frac{7}{11}\right) = \frac{28}{110}$$

Probability of drawing a green ball from vessel A after the transfers in these four cases are

 $\frac{6}{10}$, $\frac{5}{10}$, $\frac{7}{10}$, $\frac{6}{10}$ respectively.

Therefore the required probability

$$= \left(\frac{30}{110}\right) \times \left(\frac{6}{10}\right) + \left(\frac{5}{10}\right) \times \left(\frac{36}{110}\right) + \left(\frac{7}{10}\right) \times \left(\frac{16}{110}\right) + \left(\frac{6}{10}\right) \times \left(\frac{28}{110}\right) = \frac{32}{55}$$

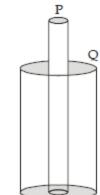
III QUESTION ANALYTICS

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Q. 7

A cylinder P of radius 14 m and height 44 m pierces through another cylinder Q whose radius is thrice the radius of cylinder P and height is $\frac{4}{11}$ times of the cylinder P as shown in the figure below. Two different liquids are poured simultaneously in both the cylinders at the rate of 44 m³/minute in cylinder P

and at the rate of 64 m³/minute in cylinder Q, till the cylinders are filled up to the brim. The time taken to completely fill the two cylinders is



Solution Video | Have any Doubt ?

8 hours and 48 minutes

B 4 hours

20 hours and 32 minutes

Correct Option

Solution:

(c)

Volume of cylinder P = $44 \times 14 \times 14 \times \frac{22}{7} = 27104 \text{ m}^3$

Radius of cylinder $Q = 14 \times 3 = 42 \text{ m}$

Height of cylinder Q =
$$\left(\frac{4}{11}\right) \times 44 = 16 \text{ m}$$

Volume of cylinder Q in which the liquid can be filled = $\frac{22}{7} \times 42 \times 42 \times 16 - \frac{22}{7} \times 14 \times 14 \times 16$

Time taken to fill cylinder P = $\frac{27104}{44}$ = 616 minutes

Time taken to fill cylinder Q = $\frac{78848}{64}$ = 1232 minutes

So the time taken to completely fill the 2 cylinders is 1232 minutes or 20 hours and 32 minutes.

D

12 hours and 36 minutes

QUESTION ANALYTICS



Q. 8

In the given figure, triangles ABC and PQR are right angled triangles with angle C and Q being right angles. QR is parallel to AC and AB = 300 cm, PQ = 20 cm and QR = 100 cm. The length of side BC to the nearest integer is

(AA similarity)

Q R P

Solution Video Have any Doubt?

A 57 cm

B 59 cm

Correct Option

Solution:

 \Rightarrow

OΓ

$$\begin{array}{ccc}
 & QR \mid \mid AC \\
 & \Rightarrow & \angle QRA = \angle BAC \\
 & \angle Q = \angle C = 90^{\circ}
\end{array}$$

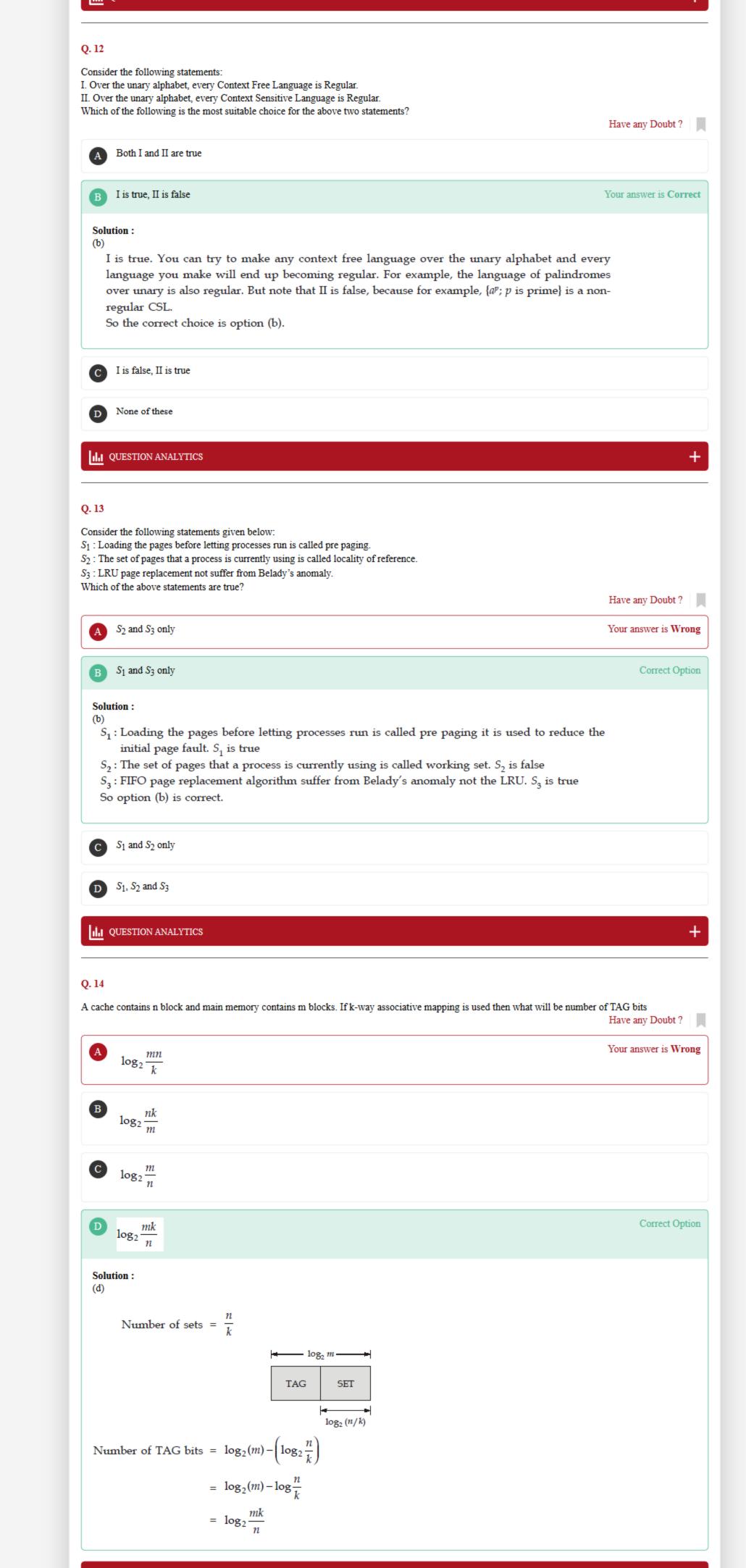
(Parallel lines cut by transversal line)

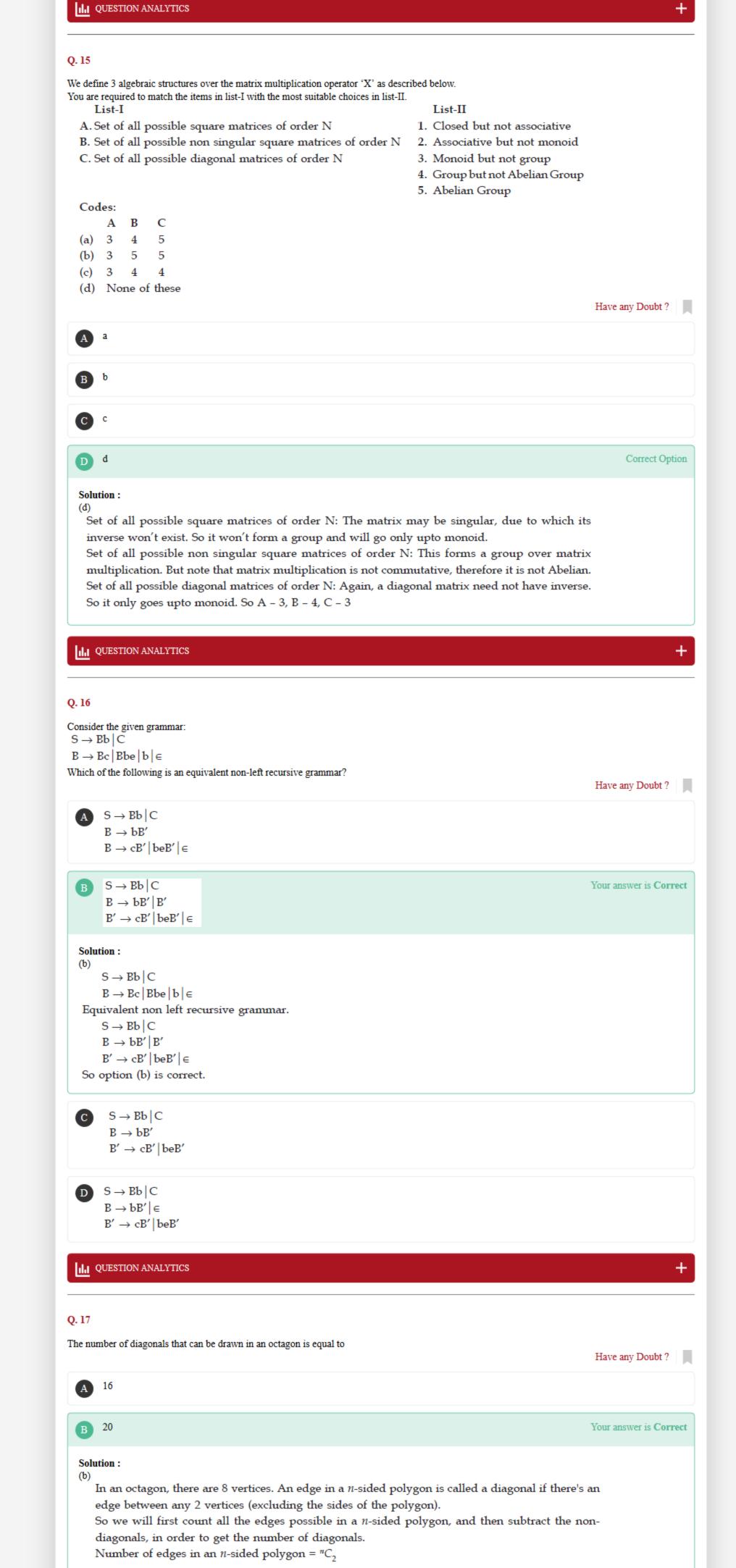
 $\frac{BC}{AC} = \frac{PQ}{QR} = \frac{20}{100} = \frac{1}{5}$

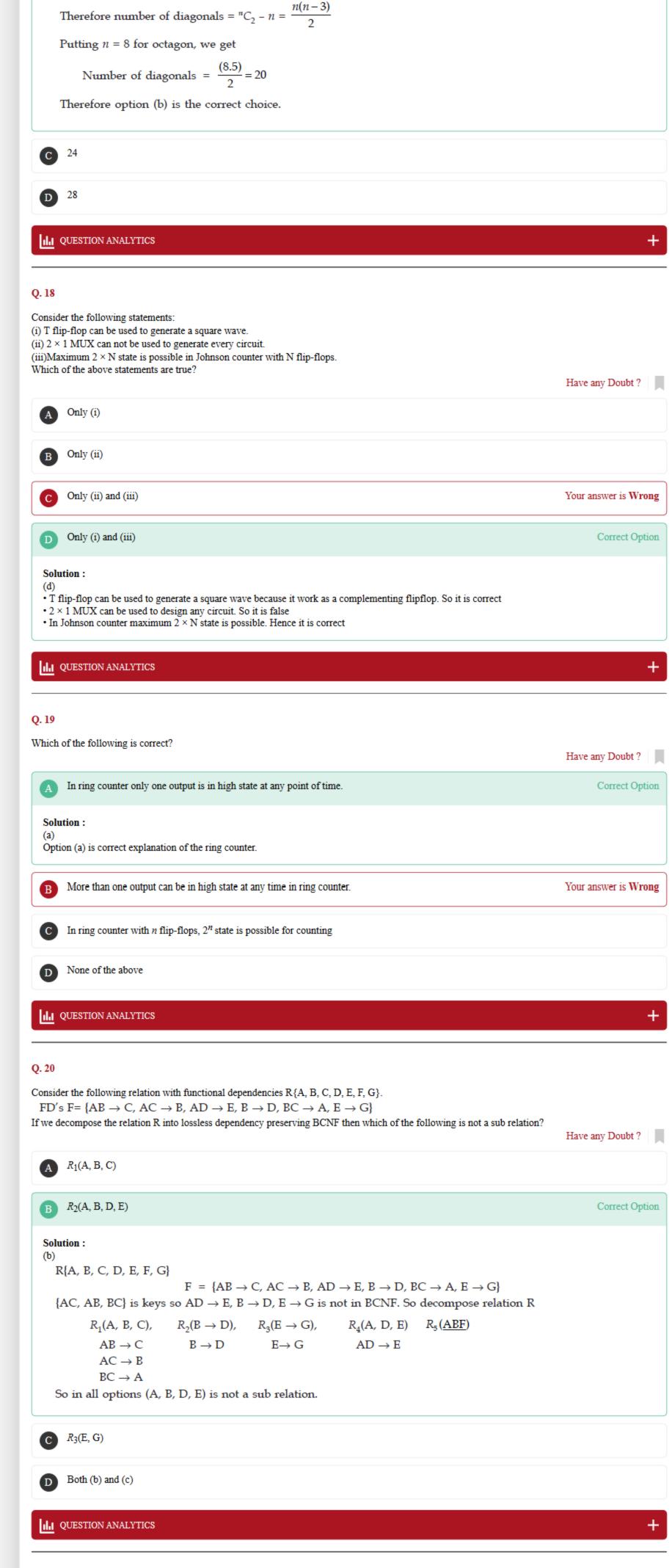
AC = 5 BC $AB = \sqrt{BC^2 + AC^2}$

 $\Delta PQR \simeq \Delta BCA$

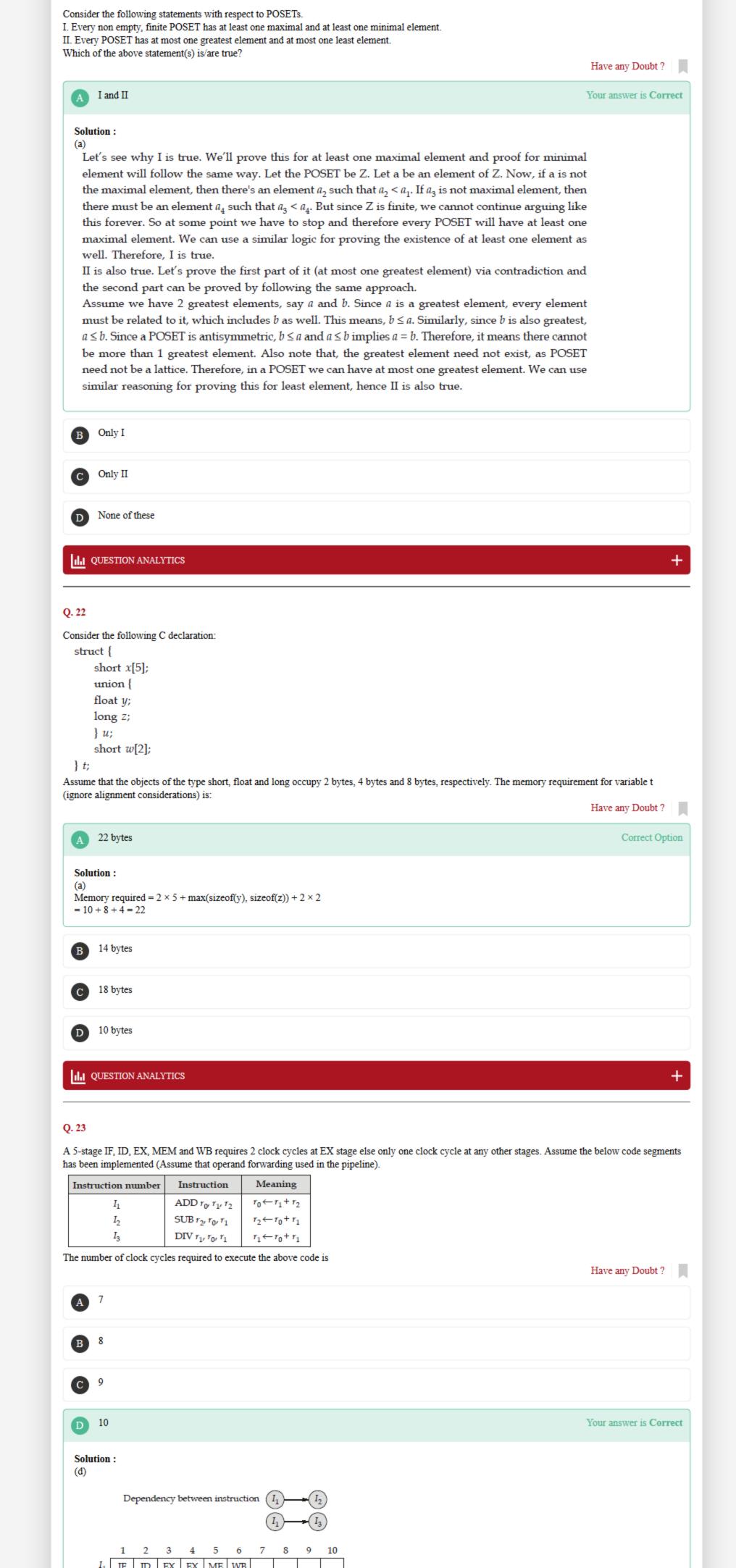
 $BC = \sqrt{\frac{90000}{26}} = 58.83$ or 59 cm which is the nearest integer. 61 cm 63 cm **III** QUESTION ANALYTICS Q. 9 A lizard is crawling up a minaret to reach the top. The top of the minaret is 1800 cm from its position. After every minute of crawling it halts for half a minute. In every halt it slides down by 30 cm from its position. Time the lizard will take to reach the top of the minaret if it can crawl 150 cm per minute Solution Video Have any Doubt? 21 minutes 48 seconds Correct Option Solution: Number of trials = $\frac{1800}{150 - 30} = \frac{1800}{120} = 15$ Let us take 14 trials of sliding up For every trial of these 14 trials, its effective upward movement is (150 - 30) = 120 cm The time taken for this = $\left(14 \times 1 + 14 \times \frac{1}{2}\right)$ = 21 minutes Total distance = $(14 \times 120) = 1680$ cm Remaining = 1800 - 1680 = 120 cmRemaining 120 cm it can reach in $\frac{(60 \times 120)}{150}$ = 48 seconds Total time = 21 minutes 48 seconds 25 minutes 20 minutes 32 minutes 40 seconds III QUESTION ANALYTICS Q. 10 The average number of goals scored per match by Sunil Chhetri in matches where he was in the team of starting 11 is 1.5 and the average number of goals scored by him in matches where he came on as a substitute is 0.5. He scored 390 goals more in matches where he was in the team of starting 11 than in matches in which he came on as a substitute. If he played 388 matches in total, the average number of goals scored by him per match is Solution Video | Have any Doubt ? 1.253 (1.2 - 1.3) Correct Option Solution: 1.253 (1.2 - 1.3) Let the number of matches in which he was in the team of starting 11 be x and the matches in which he came on as a substitute be y. Number of goals scored in matches in which he was in the team of starting 11 = Average × number of matches = 1.5xNumber of goals scored in matches in which he came on as a substitute = 0.5y 1.5x = 0.5y + 390...(ii) Solving both equations for x and y, we have x = 292 and y = 96So, the total number of goals scored by him = $1.5 \times 292 + 0.5 \times 96 = 486$ goals Therefore, average number of goals scored per match = $486 \div 388 = 1.253$ **ILL** QUESTION ANALYTICS Q. 11 Which of the following is an incorrect statement regarding the closure properties of languages? FAQ Have any Doubt? DCFLs are closed under complementation The reversal of a DCFL is always context free Your answer is Wrong Context free languages are closed under finite union None of these Correct Option Solution: We know DCFLs are closed under complementation, so (a) is fine. Note that although DCFLs are not closed under reversal, but the reversal of a DCFL will always be context free, even though the result may not be deterministic, but it's guaranteed to be context free. Why? Because every DCFL can be thought of as a CFL and we know that CFLs are closed under reversal, therefore (b) is also fine. Also CFLs are closed under finite union, so (c) is also good. So the appropriate choice is option (d). AL OUESTION ANALYTICS

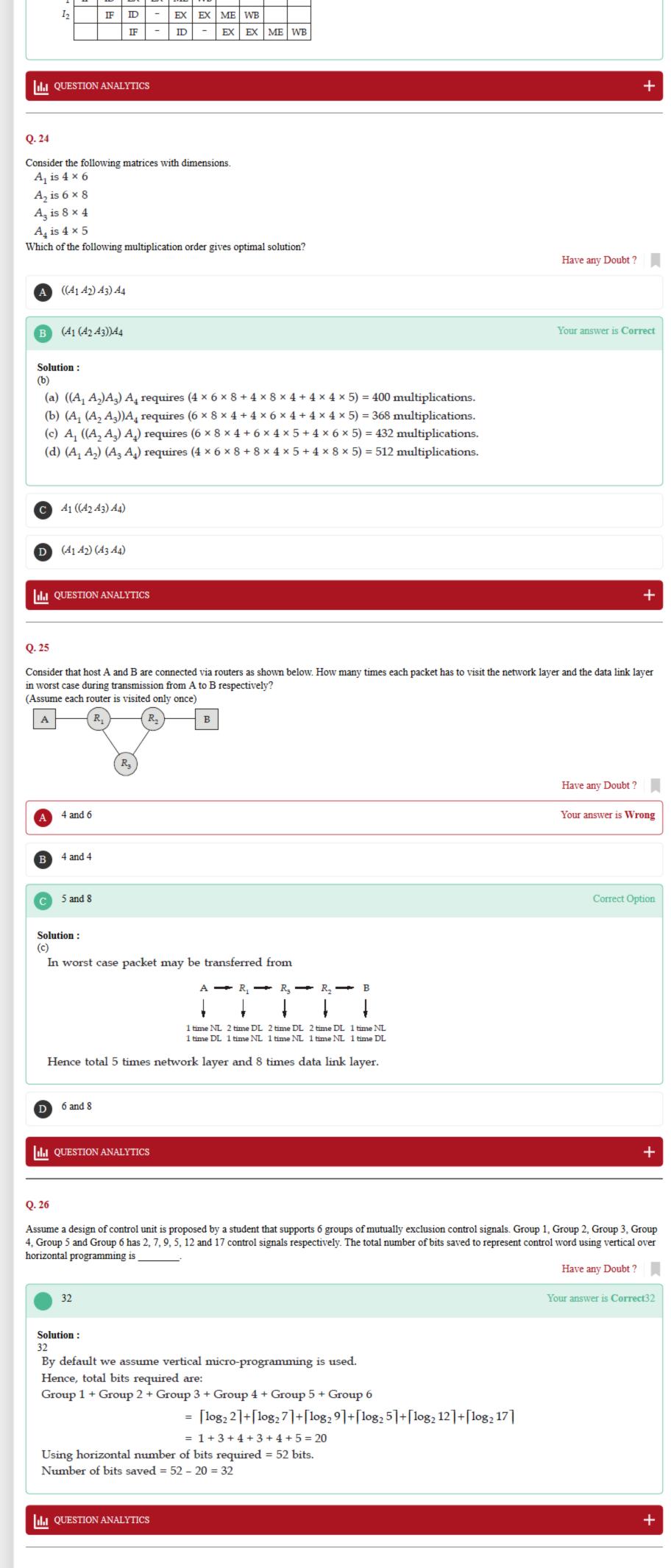


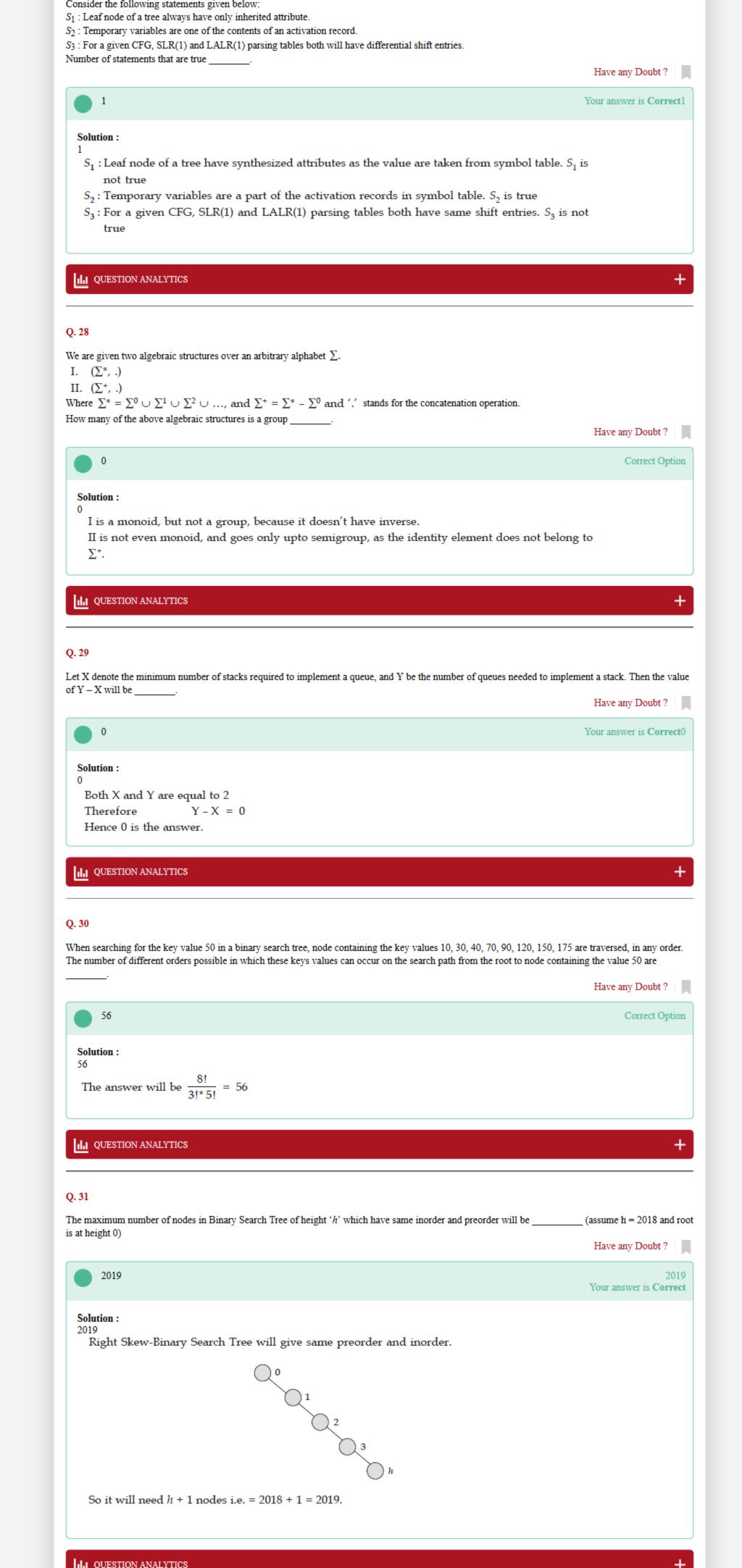




Q. 21







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Q. 32
Let L_1 = 0^* 1^*, L_2 = 1^* 0^*, L_3 = (0 + 1)^* and L_4 = 0^* 1^* 0^*, the number of strings in the following
language L = (L_1 \cap L_2) - (L_3 \cap L_4) are ______.
                                                                                                                     Have any Doubt?
        0
                                                                                                                   Your answer is Correct0
  Solution:
    Given, L_1 = 0^* \ 1^*, L_2 = 1^* \ 0^*, L_3 = (0 + 1)^* and L_4 = 0^* \ 1^* \ 0^*
     L_1 can be simplified as, L_1 = 0^* + 1^* + 0^+ 1^+
                         L_2 = 1^* + 0^* + 1^+ 0^+
     Similarly
                          L_1 \cap L_2 = 0^* + 1^*
     Therefore,
    Since L_3 = (0 + 1)* is a superset of L_{4\prime} so we can say that L_3 \cap L_4 = L_4
    So in this case L_3 \cap L_4 = 0^* \cdot 1^* \cdot 0^*
                                  L = (L_1 \cap L_2) - (L_3 \cap L_4)
     Hence,
                                   = (0^* + 1^*) - (0^*1^*0^*) = \phi
     So the number of strings in the language L = 0.
  III QUESTION ANALYTICS
Q. 33
The order of an internal node in a B+ tree is the maximum number of child pointer a node can have. Suppose that a child pointer takes 10 bytes, the search
field value takes 13 bytes and record pointer is 12 bytes the block size is 1024 bytes what is the order of internal node
                                                                                                               FAQ Have any Doubt?
        45
                                                                                                                  Your answer is Correct45
  Solution:
   Let n is the order of internal node
                10n + 13(n - 1) \le 1024
                 10n + 13n - 13 \le 1024
                             23n \leq 1037
                               n \leq 45.08
                                n = 45
  QUESTION ANALYTICS
Q. 34
Consider the following statements given below:
S<sub>1</sub>: Contiguous file allocation leads to external fragmentation.
S2: Continuous allocation allows both sequential and direct access.
S<sub>3</sub>: Linked allocation exhibit external fragmentation.
How many number of statements are incorrect
                                                                                                                     Have any Doubt?
                                                                                                                   Your answer is Correct1
   Solution:
     S<sub>1</sub>: Contiguous file allocation leads to external fragmentation because whenever a file is deleted
         a hole is created.
     S_2: Continuous allocation allows both sequential and direct access.
     S_3: Linked allocation does not exhibit external fragmentation.
     Only 1 statement is incorrect.
  ILL QUESTION ANALYTICS
Q. 35
Let L be a language over the alphabet \{0, 1\} which satisfies (\overline{L^*}) = (\overline{L})^*.
The number of languages which satisfy the above equality _
                                                                                                                     Have any Doubt?
        0
                                                                                                                            Correct Option
  Solution:
    No language satisfies the above equality, because the LHS of the equality does not contain epsilon,
    whereas the RHS does. We can see that even the empty language does not satisfy the above
    equality.
    Therefore the answer will be 0.
  ILI QUESTION ANALYTICS
Q. 36
Match List-I with List-II and select the correct answer using the codes given below the lists:
                                             List-II
     List-I

    Every a is followed by atleast one b.

  A. (abb*)*
  B. (a + ba)^* (\in +b)
                                         2. Contains at least 2 a's.
                                         3. Contains all strings in which no two b's are consecutive
  C. (a + b)^* ab^* ab^*
  D. b(a + b)*b
                                         4. Contains all string starting and ending with b.
                                         5. Contains strings having at least 2 length such that string
                                             starts and ends with b.
  Codes:
```

- (a) 1 3 2 4 (b) 1 3 2 5 (c) 1 2 3 4 (d) None of these
- A a Your answer is Wrong

 B b
- **©** ^c
- D d Correct Option

Solution: (d)

 $(abb^*)^* \Rightarrow Starts with a, and every 'a' is followed by at least one 'b'.$

That's why (d) is the answer, as the regular expression (1) is only generating a subset of P, as string need not start with 'a'.

 $(a + ba)^*$ ($\in + b$) \Rightarrow No two b's are consecutive.

 $(a + b)^* ab^*ab^* \Rightarrow At least two a's.$

 $b(a + b)*b \Rightarrow Starts$ and ends with b and has atleast 2 length.



+

Have any Doubt?

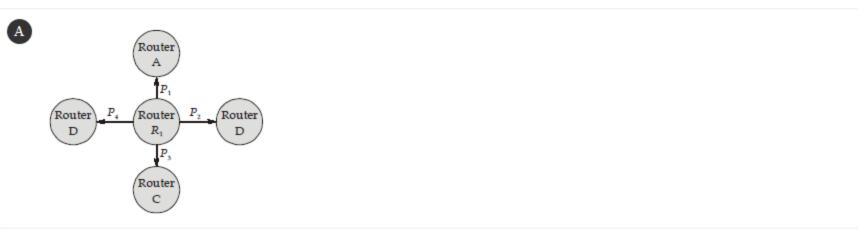
Q. 37

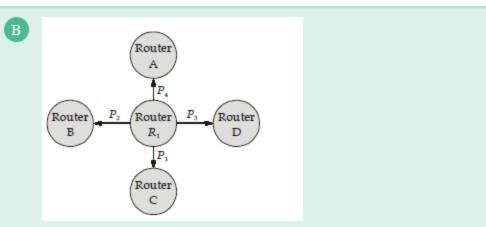
A router R_1 has the following entries in its routing table:

Address/Mask	Next Hop
192.53.40.0/23	RouterA
135.46.56.0/22	Router B
135.46.60.0/22	Router C
Default	Router D

Four packets P_1 , P_2 , P_3 and P_4 with IP addresses 135.46.63.10, 135.46.57.14, 135.46.52.2 and 192.53.40.7 respectively arrives at the $R_1 \cdot R_1$ processed the packet and transfers it to their respective destination path. Which of the following figure displays the correct path for the packet P_1 , P_2 , P_3 and P_4 ?

Have any Doubt?





Correct Option

Solution:

 $P_1 \rightarrow 135.46.63.10 \rightarrow \text{Router C}$

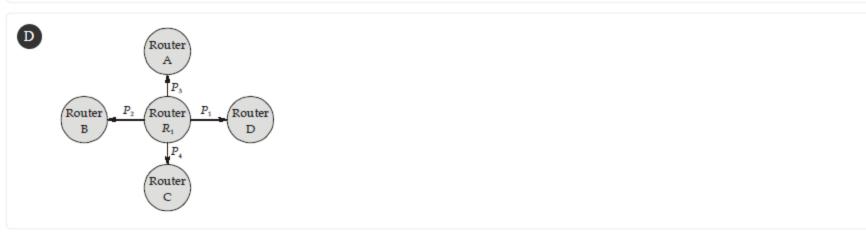
 $P_2 \rightarrow 135.46.57.14 \rightarrow \text{Router B}$

 $P_3 \rightarrow 135.46.52.2 \rightarrow \text{Router D}$

 $P_3 \rightarrow 192.53.40.7 \rightarrow \text{Router A}$

So, option (b) is correct.

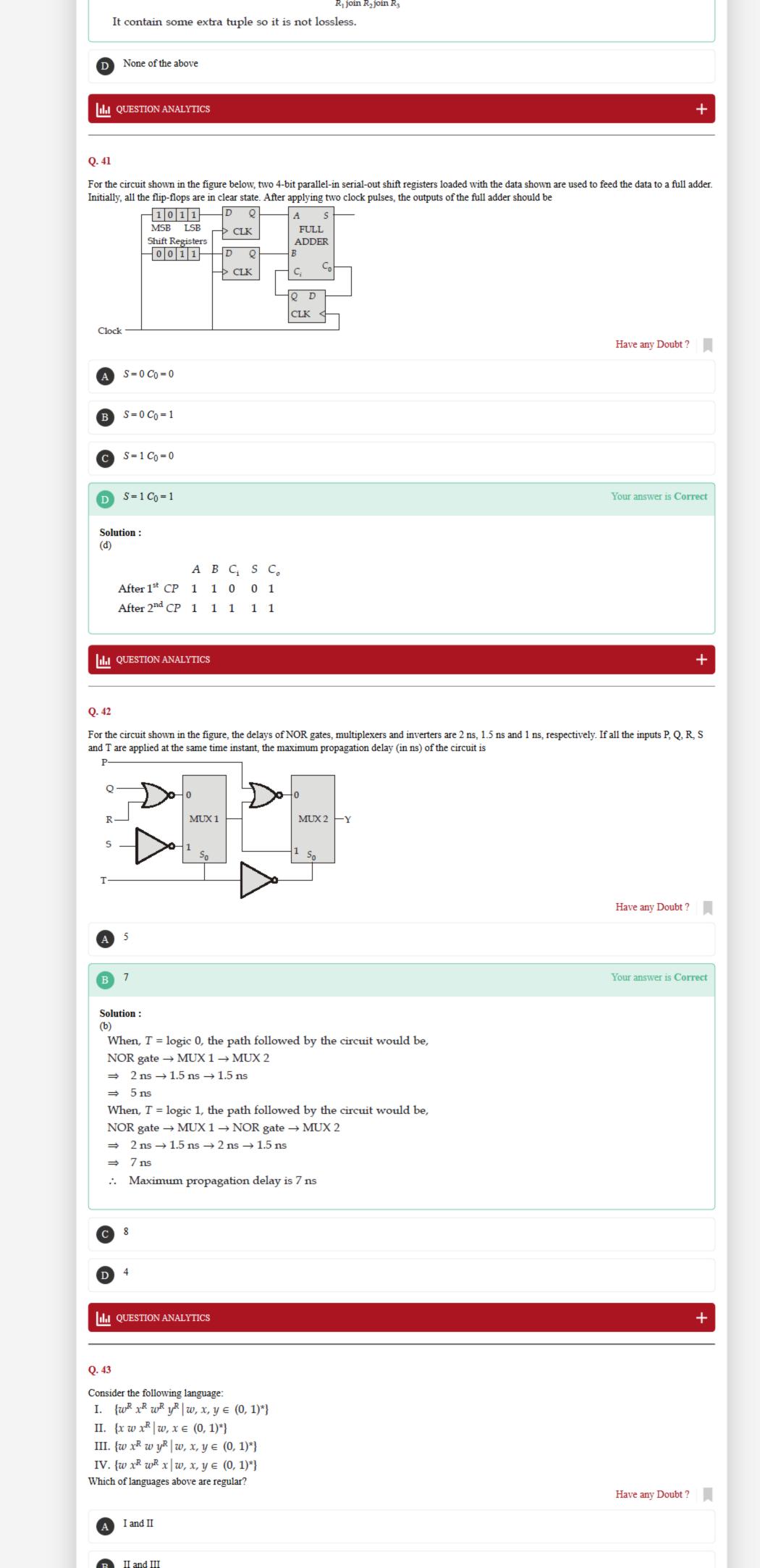




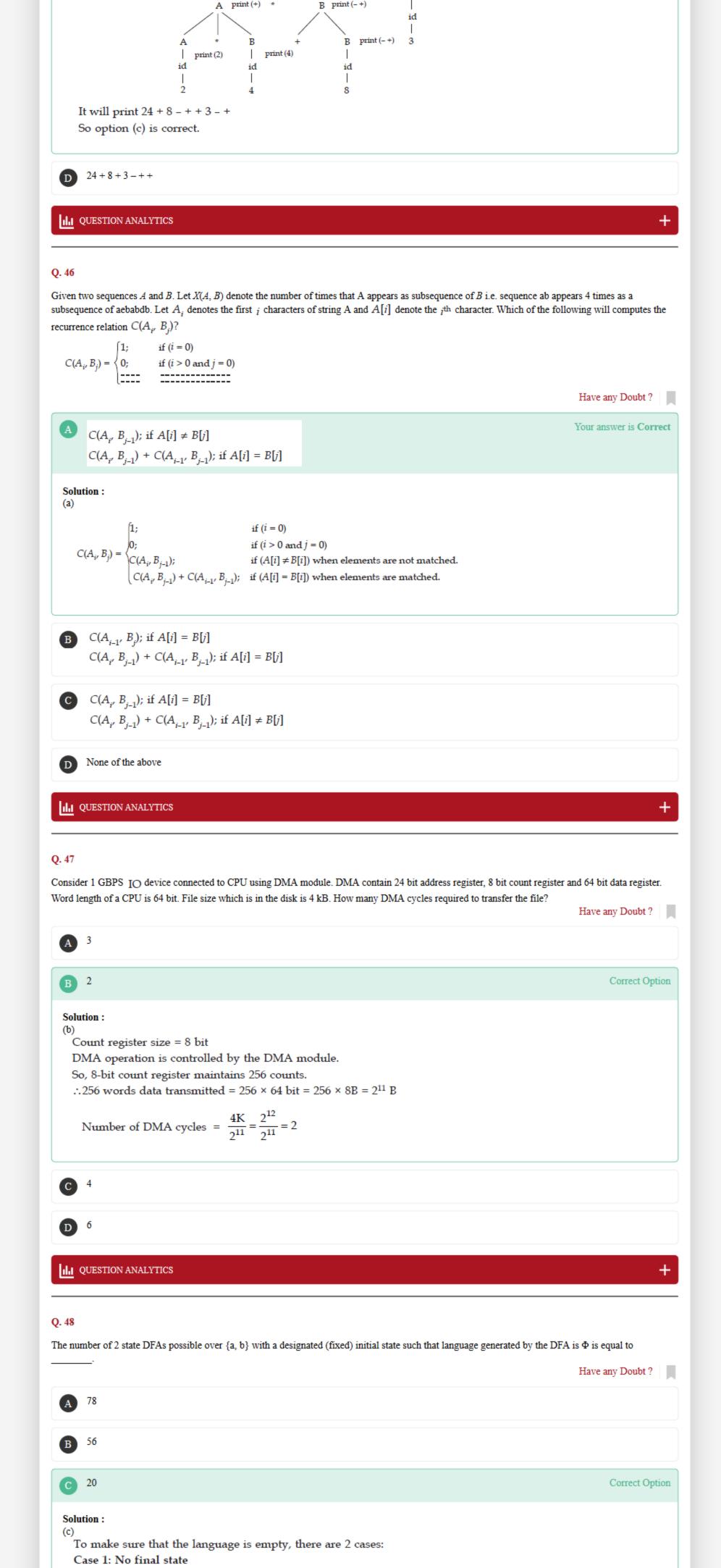
ILL QUESTION ANALYTICS

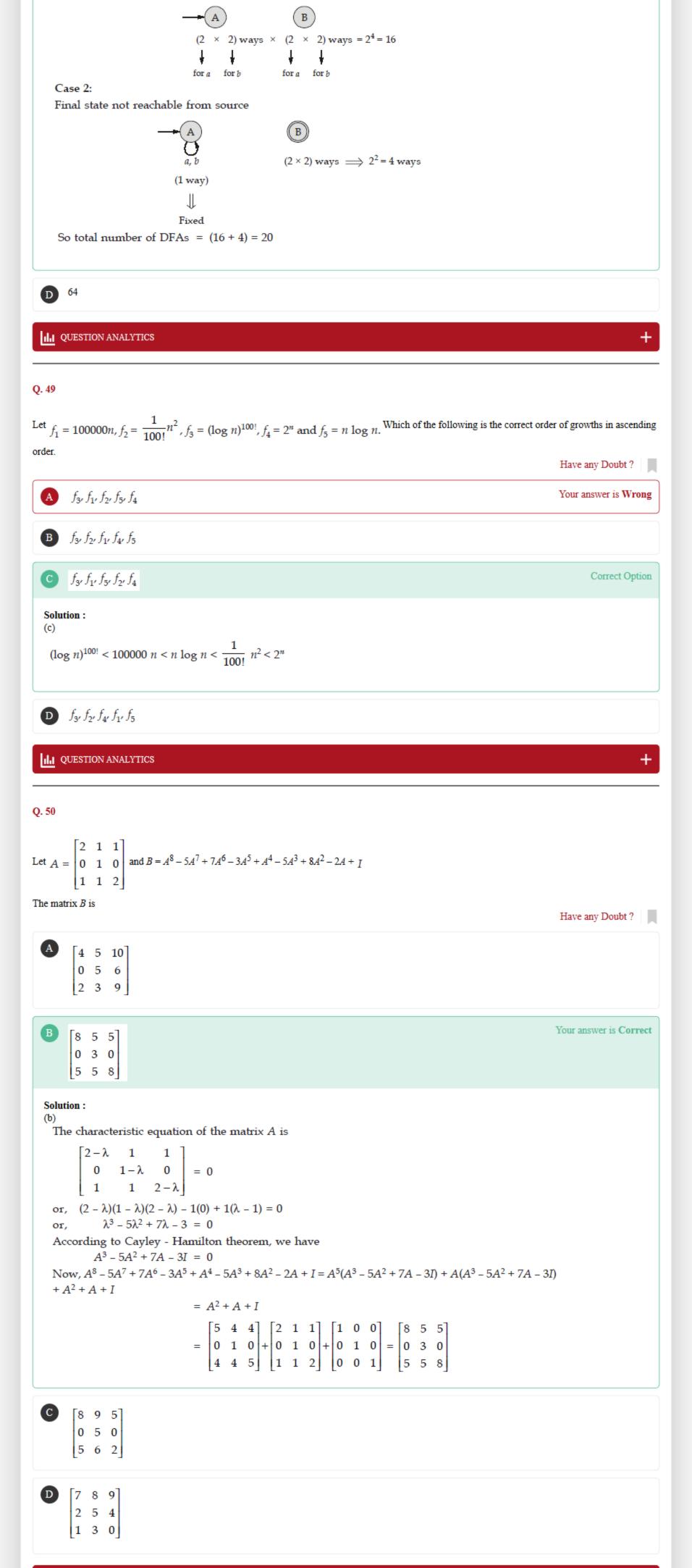
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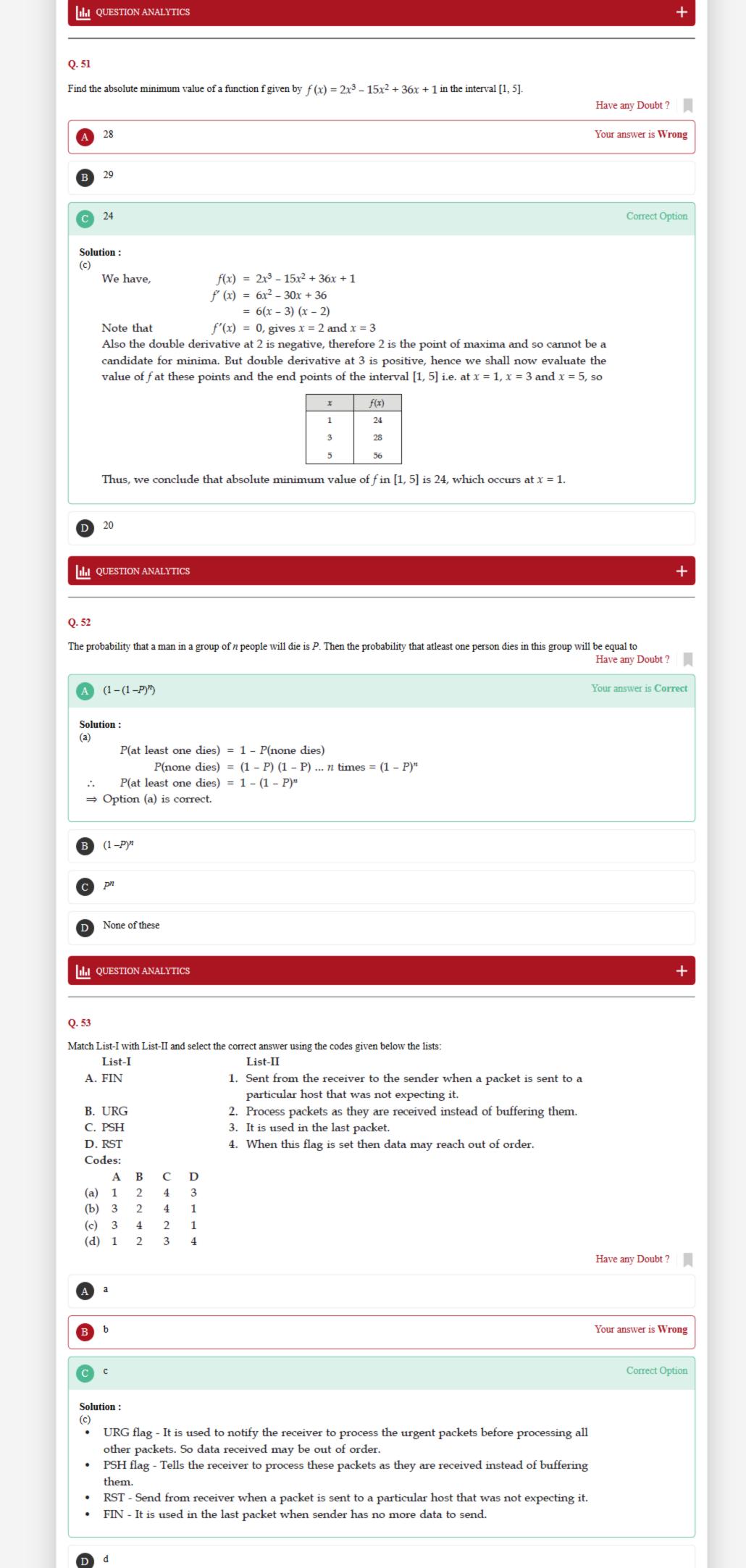
Which one of the following expression represents the given Directed Acyclic Graph (DAG)? Have any Doubt? ((x * y + z) * (x * y) + z)Your answer is Correct ((x * y) * (x * y)) + ((x * y) + z)Solution: (b) (x * y)(x * y) + zSo final expression is ((x * y) * (x * y)) + ((x * y) + z)((x * y) + z) * (x * y)) + ((x * y)None of the above **III** QUESTION ANALYTICS Q. 39 Consider the following code for synchronization of two process: P_i : While (True) While (True) While (get = = j); While (get = = i); CRITICAL SECTION CRITICAL SECTION get = j;get = i;Where get is shared variable between two process and initial value of get = i then which of the following is true about the above code? Have any Doubt? It satisfied mutual exclusion but does not prevent deadlock. It satisfied mutual exclusion and progress. It satisfied mutual exclusion but not progress. Correct Option Solution: (c) It satisfied mutual exclusion since only one process can enter into critical section at a time. It requires the process to enter into strict alteration first P_i is executed then P_i because initial value of get = i then repeat the same. So it does not satisfied process. So option (c) is correct. None of the above QUESTION ANALYTICS Q. 40 Consider a relation R(A, B, C, D) with functional dependencies: $A \rightarrow B, B \rightarrow C, C \rightarrow D$ Which of the following decomposition is not lossless? Have any Doubt? $R_1(A, B), R_2(B, C), R_3(C, D)$ $R_1(A, B), R_2(A, C), R_3(A, D)$ Your answer is Correct $R_1(A, D), R_2(B, D), R_3(C, D)$ Solution: Consider a instance of relation R. ВС 3 3 5 3

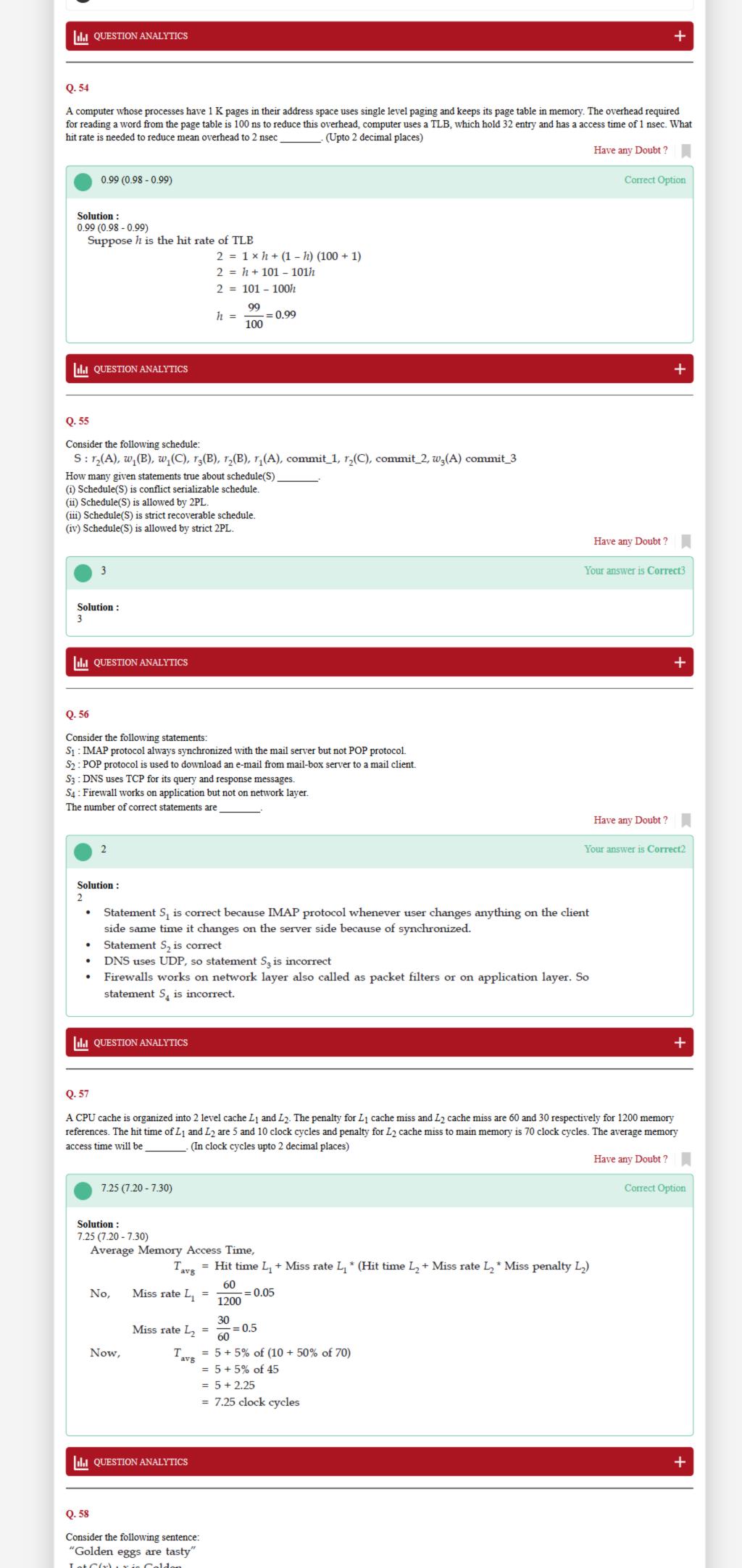


```
C I, II, III and IV
  I, II and III
                                                                                                               Your answer is Correct
  Solution:
   I, II, III \rightarrow regular
   IV \rightarrow not regular
   Try to avoid string matching by putting w as \in and make x and y go to (0 + 1). Therefore we're
   shown that the subset itself is \Sigma^* and thus, I is regular.
   Similarly for II, we can put x as \in and then put w as (0 + 1)^*.
   Therefore II is also regular.
   Now in III, put w as \in and make x^R and y^R go to \Sigma^* (note that between x and y there's no string
   matching). So III is also regular.
   But IV is not regular let's see why.
   Try getting rid of string matching by putting w as \in.
   But now we are left with xx^R, which is also string matching.
   So if we start all over again by putting x as \in, we are again left with ww^R, another string matching.
   So we cannot got rid of string matching at all here, as even if both w and x are made \in, the subset
   is ∈, but this proves nothing - only says that a subset of this language is regular, but that doesn't
   say anything at all about the language itself. So IV is not regular.
  III QUESTION ANALYTICS
Q. 44
Consider the following C code:
#include <stdio.h>
struct MadeEasy
char p, q, r;
};
int main(void)
struct MadeEasy a = \{'d' - 2019, 'e', 5 + 'a'\};
struct MadeEasy *b = &a;
printf("%c, %c", *((char*)b + 1) – 1, *((char*)b + 2) – 1);
return 0;
The output of the following code will be
                                                                                                                Have any Doubt?
  A d, e
                                                                                                                       Correct Option
  Solution:
   Since %c is being used, we will directly write the character on the RHS of each expression.
   Note that we don't need to evaluate d' - 2019 as it is not asked in the question.
                     *((\operatorname{char}^*)b + 1) = e
    Therefore *((char*)b + 1) - 1 = d
    Similarly,
                     *((\operatorname{char}^*)b + 2) = f
                 ((char^*)b + 2) - 1 = e
   So the output will be d, e.
   Therefore choice (a) will be correct.
 \mathbf{B} e, f
 (d', '4 + a')
       'ď', 'e'
 ILI QUESTION ANALYTICS
Q. 45
Consider the following translation scheme:
  S \rightarrow AB
  A \rightarrow A * B \{ print ('+'); \}
                {print (id.value); }
  A \rightarrow id
  B \rightarrow +B
                {print ('-+'); }
  B \rightarrow id
                {print (id.value); }
Here id is a token which represent an integer and id value represent the value of that integer. For an input 2 * 4 * + 8 + 3, this translation scheme prints.
                                                                                                                Have any Doubt?
      24 + 8 + - + 3 - +
                                                                                                                Your answer is Wrong
 B 24+8-+3-+
  24+8-++3-+
                                                                                                                       Correct Option
  Solution:
  (c)
                                              A print (+)
                                                                           print (-+)
                                                                            B print (3)
```









```
Let G(x) . x is Golden
     E(x): x \text{ is an egg}
     T(x): x is tasty
Now consider the following first order statements.
 I. \forall x (G(x) \Rightarrow (E(x) \Rightarrow T(x)))
                                                II. \forall x (E(x) \Rightarrow (G(x) \Rightarrow T(x)))
  III. \forall x (\sim T(x) \Rightarrow \sim G(x) \lor \sim E(x))
                                                IV. \forall x (\sim T(x) \Rightarrow (G(x) \Rightarrow \sim E(x))
The number of correct predicate translations for the sentence given above is ______.
                                                                                                                       Have any Doubt?
                                                                                                                              Correct Option
  Solution:
    All are correct translations:

    In (I), we first check if it is golden, then we see if it's an egg, then it will surely be tasty.

    . In (II), we first check if it is an egg and then see if it is golden, so both I and II mean the same

    (III) is contrapositive of (G(x) ∧ E(x) ⇒ T(x)) and hence it also is true.

    • (IV) is same as III; (\sim G(x) \lor \sim E(x)) is rewritten as (G(x) \Rightarrow \sim E(x)).
                                                                                                                            Your Answer is 2
  QUESTION ANALYTICS
Q. 59
Let M, N and P be two relations on the set \{1, 2, 3, ... 100\} defined as follows:
 M = \{(a, b) | b = a^2\}
 N = \{(a, b) \mid b = a + 5\}
P = M \cdot N, where \cdot is the usual composition operation.
If card(A) denotes the cardinality of a relation A, then the value of card(P) is equal to _____
                                                                                                                       Have any Doubt?
       5
                                                                                                                              Correct Option
  Solution:
    Let's first find the relation P.
                                 P = M \cdot N(a) = M(N(a))
                                     = M(a + 5) = \{(a, b) | b = (a + 5)^2\}
                                 P = \{(1, 36), (2, 49), (3, 64), (4, 81), (5, 100)\}
     So
     Therefore card(P) = 5.
                                                                                                                          Your Answer is 855
  III QUESTION ANALYTICS
Q. 60
Consider the following relation:
Sailors (sid, sname, rating, age)
            sname
                     rating
                                age
              Х
                       11
                                 19
     1
     2
              Α
                                 15
                        4
              Х
                                 33
              C
     10
                        5
                                 17
     5
                       10
                                 23
              Z
              D
     18
                        15
                                 25
     25
                                 21
            Instance of sailors
How many number of tuples is returned by the following SQL query when executed on the given
instance of Sailors?
Select S.sname FROM Sailors S WHERE
     NOT EXISTS (SELECT * FROM Sailors S<sub>1</sub>
          WHERE S_1.age < 18 AND
                   S.rating < = S_1 rating)
                                                                                                                       Have any Doubt?
     3
                                                                                                                              Correct Option
  Solution:
     SQL query returns the sname of sailors with a higher rating than all sailors with age less than 18.
     The relation return by the SQL query:
                                                            sname
                                                              Х
                                                              Y
     Total 3 tuples returns.
                                                                                                                            Your Answer is 5
  III QUESTION ANALYTICS
Q. 61
Consider the following C code:
  #include <stdio.h>
```

int fun()

```
static int num = 25;
    return num --;
int main()
    for(fun(); fun(); fun())
    printf("%d", fun());
    return 0;
```

The sum of the values printed by the above program will be _____.

Have any Doubt?

Your answer is Correct100



Solution:

100

The output printed by the given program will be 23, 20, 17, 14, 11, 8, 5, 2. Therefore the sum of these values will be 100.

III QUESTION ANALYTICS

Q. 62

Consider the following set of process that need to be scheduled on a single CPU.

Process	Arrival Time	Burst Time
P_1	0	23
P_2	3	14
P_3	6	19
P_4	12	22
P ₅	15	27
P.	18	17

What is average turn around time using longest job first scheduling ... (Upto 2 decimal places)

Have any Doubt?



68.66 (68.64 - 68.68)

Correct Option

Solution: 68.66 (68.64 - 68.68)

Gantt chart

Process	Completion Time	Turn Around Time
P_1	23	23
P_2	122	119
P ₃	91	85
P_4	72	60
P ₅	50	35
P ₆	108	90

Average turn around time = $\frac{23+119+85+60+35+90}{6} = \frac{412}{6} = 68.66$

ILI QUESTION ANALYTICS

Q. 63

Assume that A and b are only active stations on an ethernet. Both has a steady queue of frames to send. To get the control on channel they uses binary exponential algorithm. Both are attempting to transmit the frame. The probability that both are successfully allowed to send the frame on 4th round and in earlier attempts both A and B collides is ______. (Upto 2 decimal places)

Have any Doubt?

Correct Option

0.11 (0.10 -0.11)

Solution: 0.11 (0.10 -0.11)

At attempt 1, both try and will results in collision.

At attempt 2, number of slots will be 2 i.e. 0, 1

At attempt 3, number of slots will be 4 i.e. 0, 1, 2, 3

At attempt i, number of slots will be 2^{i-1}

So probability of collision at attempt $i = \frac{1}{2^{i-1}}$

Now, probability that both successfully transmits on 4th round = Collision in 1st round × Collision in 2nd round × Collision in 3rd round × Success in 4th round

$$= \frac{1}{2^{(1-1)}} \times \frac{1}{2^{(2-1)}} \times \frac{1}{2^{(3-1)}} \times \left[1 - \frac{1}{2^{(4-1)}}\right]$$

$$= [1 \times 0.5 \times 0.25 \times (1 - 0.125)]$$

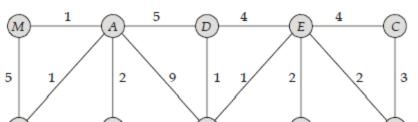
$$= [0.5 \times 0.25 \times 0.875]$$

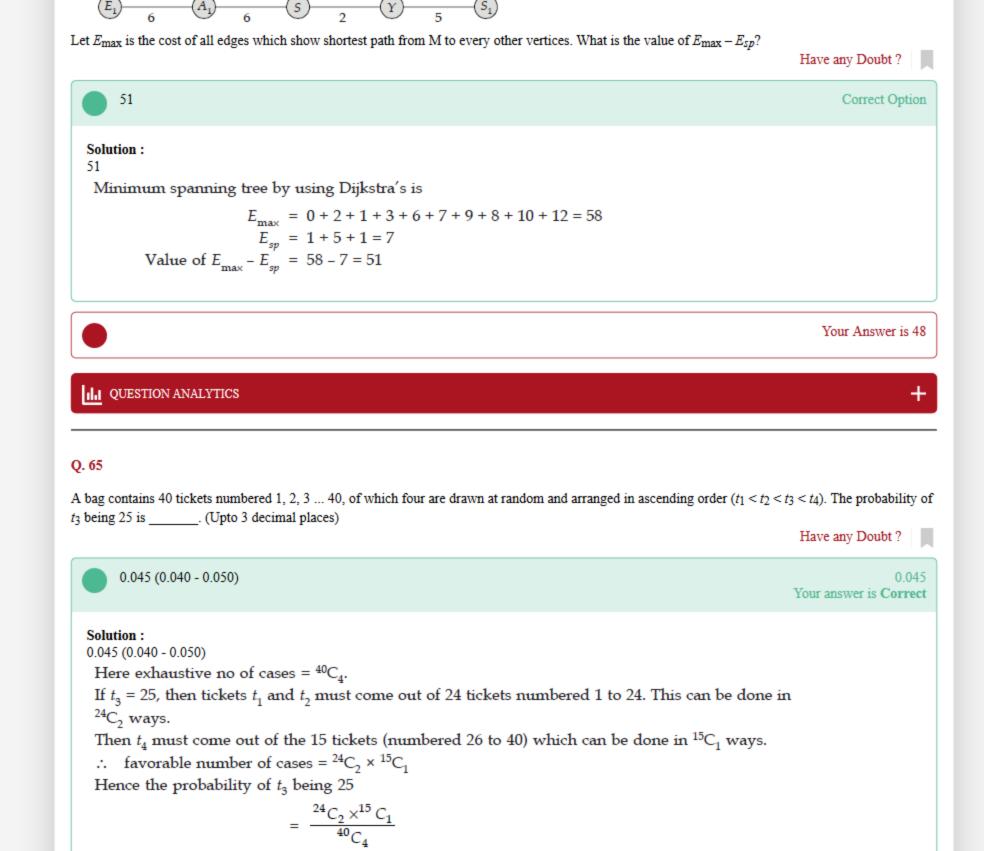
$$= 0.109375 = 0.11$$

III QUESTION ANALYTICS

Q. 64

Assume that G be a graph with (v, e) where v is the set of vertices and e is the set of edges in G. Assume that Esp be the cost of edges of shortest path from M to S, which is computed by Dijkstra is algorithm. The graph G is given below.





 $= \frac{4140}{91390} = 0.0453$

III QUESTION ANALYTICS