

Topic:- CSA1_SHAAN_NOV21A

- 1) Which of the statements given below is/are correct?
It is always important and useful to include an "alt" attribute on "img" tag in HTML because
- users who cannot see the image due to vision impairment can have a textual description of the image (which can be spoken aloud by a screenreader).
 - If the image fails to load (slow connection, broken path, etc.) then alt text is displayed instead.
 - SEO (Search Engine Optimization) benefits.

Choose the correct answer from the options given below:
[Question ID = 2331][Question Description = 51_q5Nz_PG_CMS_Q01]

- A only [Option ID = 9321]
- B and C only [Option ID = 9322]
- C only [Option ID = 9323]
- A, B, and C [Option ID = 9324]

Correct Answer ->
● A only [Option ID = 9321]

2) What does the following function f() in 'C' return?
int f(unsigned int N) { unsigned int counter = 0; while(N > 0) { counter += N & 1; N = N >> 1;} return counter == 1; }

[Question ID = 2332][Question Description = 51_q5Nz_PG_CMS_Q02]

- 1 if N is odd, otherwise 0 [Option ID = 9325]
- 1 if N is a power of 2, otherwise 0 [Option ID = 9326]
- 1 if the binary representation of N is all 1's, otherwise 0 [Option ID = 9327]
- 1 if the binary representation of N has any 1's, otherwise 0 [Option ID = 9328]

Correct Answer ->
● 1 if N is odd, otherwise 0 [Option ID = 9325]

3) Consider the following recursive function F() in Java that takes an integer value and returns a string value:
public static String F(int N) {
 if (N <= 0) return "-";
 return F(N - 3) + N + F(N - 2) + N;
}

The value of F(5) is:
[Question ID = 2333][Question Description = 51_q5Nz_PG_CMS_Q03]

- 2-25-3-135 [Option ID = 9329]
- 2-25-1-3-135 [Option ID = 9330]
- 1-4-2-14-2 [Option ID = 9331]
- 2-25-3-1-135 [Option ID = 9332]

Correct Answer ->
● -2-25-3-135 [Option ID = 9329]

4) Match List I with List II

List I (Programming Term)	List II (Meaning)
A. JNDI	I. Runtime support for running Java programs
B. RMI	II. The API in support of naming and directory services
C. JMX	III. The methods provided by the Java development kit and runtime support for calling remote methods
D. JRE	IV. The compiler and class libraries to develop Java applications

Choose the correct answer from the options given below:
[Question ID = 2334][Question Description = 51_q5Nz_PG_CMS_Q04]

- A - I, B - III, C - IV, D - II [Option ID = 9333]
- A - II, B - IV, C - III, D - I [Option ID = 9334]
- A - I, B - III, C - IV, D - II [Option ID = 9335]
- A - III, B - III, C - IV, D - I [Option ID = 9336]

Correct Answer ->
● A - II, B - III, C - IV, D - I [Option ID = 9333]

5) Match List I with List II

List I (Programming Paradigm)	List II (Characteristic)
A. Imperative	I. Declarative, clausal representation, theorem proving
B. Object-oriented	II. Side-effect free, declarative, expression evaluation
C. Logic	III. Imperative, abstract data type
D. Functional	IV. Command-based, procedural

Choose the correct answer from the options given below:
[Question ID = 2335][Question Description = 51_q5Nz_PG_CMS_Q05]

- A - IV, B - III, C - I, D - II [Option ID = 9337]
- A - II, B - IV, C - I, D - II [Option ID = 9338]
- A - IV, B - III, C - II, D - I [Option ID = 9339]
- A - III, B - III, C - I, D - IV [Option ID = 9340]

Correct Answer ->
● A - IV, B - III, C - I, D - II [Option ID = 9337]

6) Suppose you have eight 'black and white' images taken with a 1-megapixel camera and one 'B-color' image taken by an 8-megapixel camera. How much hard disk space in total do you need to store these images on your computer?[Question ID = 2336][Question Description = 51_q5Nz_PG_CMS_Q06]

- 1 GB [Option ID = 9341]
- 4 MB [Option ID = 9342]
- 3 MB [Option ID = 9343]
- 3 GB [Option ID = 9344]

Correct Answer ->
● 1 GB [Option ID = 9341]

7) Which of the statements given below are correct?
The midpoint (or Bresenham) algorithm for rasterizing lines is optimized relative to DDA algorithm in that

- it avoids round-off operations.
- it is incremental.
- it uses only integer arithmetic.
- all straight lines can be displayed as straight (exact).

Choose the correct answer from the options given below:
[Question ID = 2337][Question Description = 51_q5Nz_PG_CMS_Q07]

- A and B only [Option ID = 9345]
- A and C only [Option ID = 9346]
- A, B, and D [Option ID = 9347]
- A, B, and C only [Option ID = 9348]

Correct Answer ->
● A and B only [Option ID = 9345]

8) What is the transformation matrix M that transforms a square in the xy-plane defined by $(1, 1)^T, (-1, 1)^T, (-1, -1)^T$ and $(1, -1)^T$ to a parallelogram whose corresponding vertices are $(2, 1)^T, (0, 1)^T, (-2, -1)^T$ and $(0, -1)^T$?

[Question ID = 2338][Question Description = 51_q5Nz_PG_CMS_Q08]

- $M = \begin{bmatrix} 1 & 1 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$
[Option ID = 9349]
- $M = \begin{bmatrix} 1 & 0 & 0 \\ 1 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$
[Option ID = 9350]
- $M = \begin{bmatrix} 1 & 1 & 1 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$
[Option ID = 9351]
- $M = \begin{bmatrix} 1 & 1 & 0 \\ 1 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$
[Option ID = 9352]

Correct Answer ->
● $M = \begin{bmatrix} 1 & 1 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$
[Option ID = 9349]

9) Suppose a Bezier curve P(t) is defined by the following four control points in the xy-plane: $P_0 = (-2, 0)$; $P_1 = (-2, 4)$; $P_2 = (2, 4)$; and $P_3 = (2, 0)$. Then which of the following statements are correct?

- Bezier curve P(t) has degree 3.
- $P(\frac{1}{2}) = (0, 3)$.
- Bezier curve P(t) may extend outside the convex hull of its control points.

Choose the correct answer from the options given below:
[Question ID = 2339][Question Description = 51_q5Nz_PG_CMS_Q09]

- A and B only [Option ID = 9353]
- A and C only [Option ID = 9354]
- B and C only [Option ID = 9355]
- A, B, and C [Option ID = 9356]

Correct Answer ->
● A and B only [Option ID = 9353]

10) Given below are two statements
Statement I: The maximum number of sides that a triangle might have when clipped to a rectangular viewport is 6.
Statement II: In 3D graphics, the perspective transformation is nonlinear in z.
In light of the above statements, choose the correct answer from the options given below
[Question ID = 2340][Question Description = 51_q5Nz_PG_CMS_Q10]

- Both Statement I and Statement II are true. [Option ID = 9357]
- Both Statement I and Statement II are false [Option ID = 9358]
- Statement I is true but Statement II is false [Option ID = 9359]
- Statement I is false but Statement II is true [Option ID = 9360]

Correct Answer ->
● Both Statement I and Statement II are true. [Option ID = 9357]

11) In software testing, beta testing is the testing performed by _____
[Question ID = 2341][Question Description = 51_q5Nz_PG_CMS_Q11]

- potential customers at the developer's location [Option ID = 9361]
- potential customers at their own locations [Option ID = 9362]
- product developers at the customer's location [Option ID = 9363]
- product developers at their own locations [Option ID = 9364]

Correct Answer ->
● potential customers at the developer's location [Option ID = 9361]

12) The V components in MVC are responsible for:[Question ID = 2342][Question Description = 51_q5Nz_PG_CMS_Q12]

- User interface. [Option ID = 9365]
- Security of the system. [Option ID = 9366]
- Business logic and domain objects. [Option ID = 9367]
- Translating between user interface actions/events and operations on the domain objects. [Option ID = 9368]

Correct Answer ->
● User interface. [Option ID = 9365]

13) In software engineering, what kind of notation do formal methods predominantly use?[Question ID = 2343][Question Description = 51_q5Nz_PG_CMS_Q13]

- textual [Option ID = 9369]

- 3. diagrammatic [Option ID = 9370]
- 4. computer code [Option ID = 9372]

Correct Answer ->
• textual [Option ID = 9369]

14) If every requirement stated in the Software Requirement Specification (SRS) has only one interpretation, then SRS is said to be [Question ID = 2344][Question Description = 51_g5Nz_PG_CMS_Q14]

- 1. correct [Option ID = 9373]
- 2. consistent [Option ID = 9374]
- 3. unambiguous [Option ID = 9375]
- 4. verifiable [Option ID = 9376]

Correct Answer ->
• correct [Option ID = 9373]

15) A system has 99.99% uptime and has a mean-time-between-failure of 1 day. How fast does the system has to repair itself in order to reach this availability goal? [Question ID = 2345][Question Description = 51_g5Nz_PG_CMS_Q15]

- 1. 9 seconds [Option ID = 9377]
- 2. 10 Seconds [Option ID = 9378]
- 3. 11 seconds [Option ID = 9379]
- 4. 12 Seconds [Option ID = 9380]

Correct Answer ->
• 9 Seconds [Option ID = 9377]

16) In the context of Software Configuration Management (SCM), what kind of files should be committed to your source control repository?

- A. Code files
- B. Documentation files
- C. Output files
- D. Automatically generated files that are required for your system to be used

Choose the correct answer from the options given below:

[Question ID = 2346][Question Description = 51_g5Nz_PG_CMS_Q16]

- 1. A and B only [Option ID = 9381]
- 2. B and C only [Option ID = 9382]
- 3. C and D only [Option ID = 9383]
- 4. D and A only [Option ID = 9384]

Correct Answer ->
• A and B only [Option ID = 9381]

17) Match List I with List II

List I	List II
(Software Process Model)	(Description)
A. Waterfall Model	I. Software can be developed incrementally
B. Evolutionary Model	II. Requirement compromises are inevitable
C. Component-based Software Engineering	III. Explicit recognition of risk
D. Spiral Development	IV. Inflexible partitioning of the project into stages

Choose the correct answer from the options given below:

[Question ID = 2347][Question Description = 51_g5Nz_PG_CMS_Q17]

- 1. A - IV, B - I, C - III, D - II [Option ID = 9385]
- 2. A - I, B - IV, C - II, D - III [Option ID = 9386]
- 3. A - II, B - III, C - I, D - IV [Option ID = 9387]
- 4. A - IV, B - I, C - II, D - III [Option ID = 9388]

Correct Answer ->
• A - IV, B - I, C - III, D - II [Option ID = 9385]

18) Identify the correct order of the following five levels of Capability Maturity Model (from lower to higher) to measure the maturity of an organisation's software process.

- A. Defined
- B. Optimizing
- C. Initial
- D. Managed
- E. Repeatable

Choose the correct answer from the options given below

[Question ID = 2348][Question Description = 51_g5Nz_PG_CMS_Q18]

- 1. C, A, E, D, B [Option ID = 9389]
- 2. C, A, B, D [Option ID = 9390]
- 3. C, B, D, E, A [Option ID = 9391]
- 4. C, E, A, D, B [Option ID = 9392]

Correct Answer ->
• C, A, E, D, B [Option ID = 9389]

19) Given below are two statements

Statement I: Cleanroom software process model incorporates the statistical quality certification of code increments as they accumulate into a system.

Statement II: Cleanroom software engineering follows the classic analysis, design, code, test, and debug cycle to software development and focussing on defect removal rather than defect prevention.

In light of the above statements, choose the correct answer from the options given below

[Question ID = 2349][Question Description = 51_g5Nz_PG_CMS_Q19]

- 1. Both Statement I and Statement II are true [Option ID = 9393]
- 2. Both Statement I and Statement II are false [Option ID = 9394]
- 3. Statement I is true but Statement II is false [Option ID = 9395]
- 4. Statement I is false but Statement II is true [Option ID = 9396]

Correct Answer ->
• Both Statement I and Statement II are true [Option ID = 9393]

20) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R

Assertion A : Software developers donot do exhaustive software testing in practice.

Reason R : Even for small inputs, exhaustive testing is too computationally intensive (e.g., takes too long) to run all the tests.

In light of the above statements, choose the correct answer from the options given below

[Question ID = 2350][Question Description = 51_g5Nz_PG_CMS_Q20]

- 1. Both A and R are true and R is the correct explanation of A [Option ID = 9397]
- 2. Both A and R are true but R is NOT the correct explanation of A [Option ID = 9398]
- 3. A is true but R is false [Option ID = 9399]
- 4. A is false but R is true [Option ID = 9400]

Correct Answer ->
• Both A and R are true and R is the correct explanation of A [Option ID = 9397]

21) Which of the following are logically equivalent?

- A. $\neg p \rightarrow (q \rightarrow r)$ and $q \rightarrow (p \vee r)$
- B. $(p \rightarrow q) \rightarrow r$ and $p \rightarrow (q \rightarrow r)$
- C. $(p \rightarrow q) \rightarrow (r \rightarrow s)$ and $(p \rightarrow r) \rightarrow (q \rightarrow s)$

Choose the correct answer from the options given below:

[Question ID = 2351][Question Description = 51_g5Nz_PG_CMS_Q21]

- 1. A only [Option ID = 9401]
- 2. A and B only [Option ID = 9402]
- 3. B and C only [Option ID = 9403]
- 4. A and C only [Option ID = 9404]

Correct Answer ->
• A and C only [Option ID = 9401]

22) Which of these statements about the floor and ceiling functions are correct?

Statement I: $\lfloor 2x \rfloor = \lfloor x \rfloor + \lfloor x + (1/2) \rfloor$ for all real number x

Statement II: $\lfloor x + y \rfloor = \lfloor x \rfloor + \lfloor y \rfloor$ for all real numbers x and y

[Question ID = 2352][Question Description = 51_g5Nz_PG_CMS_Q22]

- 1. Both Statement I and Statement II are true [Option ID = 9405]
- 2. Both Statement I and Statement II are false [Option ID = 9406]
- 3. Statement I is true but Statement II is false [Option ID = 9407]
- 4. Statement I is false but Statement II is true [Option ID = 9408]

Correct Answer ->
• Both Statement I and Statement II are true [Option ID = 9405]

23) How many ways are there to assign 5 different jobs to 4 different employees if every employee is assigned at least 1 job? [Question ID = 2353][Question Description = 51_g5Nz_PG_CMS_Q23]

- 1. 1024 [Option ID = 9409]
- 2. 625 [Option ID = 9410]
- 3. 240 [Option ID = 9411]
- 4. 20 [Option ID = 9412]

Correct Answer ->
• 1024 [Option ID = 9409]

24) A company stores products in a warehouse. Storage bins in this warehouse are specified by their aisle, location in the aisle, and self. There are 50 aisles, 85 horizontal locations in each aisle, and 5 shelves throughout the warehouse. What is the least number of products the company can have so that at least two products must be stored in the same bin? [Question ID = 2354][Question Description = 51_g5Nz_PG_CMS_Q24]

- 1. 251 [Option ID = 9413]
- 2. 426 [Option ID = 9414]
- 3. 4251 [Option ID = 9415]
- 4. 21251 [Option ID = 9416]

Correct Answer ->
• 251 [Option ID = 9413]

25) Let us assume a person climbing the stairs can take one stair or two stairs at a time. How many ways can this person climb a flight of eight stairs? [Question ID = 2355][Question Description = 51_g5Nz_PG_CMS_Q25]

- 1. 21 [Option ID = 9417]
- 2. 24 [Option ID = 9418]
- 3. 31 [Option ID = 9419]
- 4. 34 [Option ID = 9420]

Correct Answer ->
• 21 [Option ID = 9417]

26) For which value of n is Wheel graph W_n regular? [Question ID = 2356][Question Description = 51_g5Nz_PG_CMS_Q26]

- 1. 2 [Option ID = 9421]
- 2. 3 [Option ID = 9422]
- 3. 4 [Option ID = 9423]
- 4. 5 [Option ID = 9424]

Correct Answer ->
• 2 [Option ID = 9421]

27) Which of the following Graphs is(are) planar?



Choose the correct answer from the options given below:

[Question ID = 2357][Question Description = 51_g5Nz_PG_CMS_Q27]

- 1. A and B only [Option ID = 9425]
- 2. B and C only [Option ID = 9426]
- 3. A only [Option ID = 9427]
- 4. B only [Option ID = 9428]

Correct Answer ->
• A and B only [Option ID = 9425]

28) Match List I with List II

Set I	Set II
Identity Law	Identity Law
$A \cdot X + X = A$	II. Absorption Law
$B \cdot X + 0 = X$	III. Idempotent Law
$C \cdot X + 1 = 1$	IV. Domination Law
$D \cdot X + X = X$	

Choose the correct answer from the options given below:

- [Question ID = 2358] [Question Description = S1_q5Nz_PG_CMS_Q28]
- A - III, B - I, C - II, D - IV [Option ID = 9427]
 - A - I, B - III, C - IV, D - II [Option ID = 9432]
 - A - III, B - I, C - IV, D - II [Option ID = 9431]
 - A - III, B - IV, C - I, D - II [Option ID = 9432]

Correct Answer :-
 • A - III, B - I, C - II, D - IV [Option ID = 9427]

29) Let $(X, *)$ be a semigroup. Furthermore, for every a and b in X , if $a * b$, then $a^*b^* = b^*a^*$.

Based on the defined semigroup, choose the correct equalities from the options given below:

- For every a in X , $a^*a = a$
- For every a, b in X , $a^*b^* = a^*b$
- For every a, b, c in X , $a^*b^*c^* = a^*c^*$

- [Question ID = 2359] [Question Description = S1_q5Nz_PG_CMS_Q29]
- A and B only [Option ID = 9433]
 - A and C only [Option ID = 9434]
 - B and C only [Option ID = 9435]
 - A, B and C [Option ID = 9436]

Correct Answer :-
 • A and B only [Option ID = 9433]

30) Consider the following linear optimization problem:

Maximize $Z = 6x + 5y$
 Subject to $2x + 3y \leq 5$
 $x + 3y \leq 11$
 $4x + y \leq 15$
 and $x \geq 0, y \geq 0$.

The optimal solution of the problem is:

- [Question ID = 2360] [Question Description = S1_q5Nz_PG_CMS_Q30]
- 15 [Option ID = 9437]
 - 25 [Option ID = 9438]
 - 31.25 [Option ID = 9439]
 - 41.44 [Option ID = 9440]

Correct Answer :-
 • 15 [Option ID = 9437]

31) Which of the following languages are not regular?

- $L = \{0^k1^k \mid k \geq 0\}$
- $L = \{c^kba^{2k} \mid k \geq 0\}$
- $L = \{0^n1^n \mid n \geq 0\}$

- [Question ID = 2361] [Question Description = S1_q5Nz_PG_CMS_Q31]
- A and B only [Option ID = 9441]
 - A and C only [Option ID = 9442]
 - B and C only [Option ID = 9443]
 - A, B and C [Option ID = 9444]

Correct Answer :-
 • A and B only [Option ID = 9441]

32) Any string of terminals that can be generated by the following context free grammar (where S is start nonterminal symbol)

$$S \rightarrow XY$$

$$X \rightarrow 0X \mid 1X \mid 0$$

$$Y \rightarrow Y0 \mid Y1 \mid 0$$

- [Question ID = 2362] [Question Description = S1_q5Nz_PG_CMS_Q32]
- has at least one 1 [Option ID = 9445]
 - should end with 0 [Option ID = 9446]
 - has no consecutive 2's or 1's [Option ID = 9447]
 - has at least two 0's [Option ID = 9448]

Correct Answer :-
 • has at least one 1 [Option ID = 9445]

33) Let

$$L_1 = \{0^n1^m \mid n \geq 1, m \geq 1\}$$

$$L_2 = \{0^m1^m \mid n \geq 1, m \geq 1\}$$

$$L_3 = \{0^n1^0 \mid n \geq 1\}$$

- Which of the following are correct statements?
- $L_3 = L_1 \cap L_2$
 - L_1 and L_2 are context free languages but L_3 is not a context free language
 - L_1 and L_2 are not context free languages but L_3 is a context free language
 - L_1 is a subset of L_3

- [Question ID = 2363] [Question Description = S1_q5Nz_PG_CMS_Q33]
- A and B only [Option ID = 9449]
 - A and C only [Option ID = 9450]
 - A and D only [Option ID = 9451]
 - A only [Option ID = 9452]

Correct Answer :-
 • A and B only [Option ID = 9449]

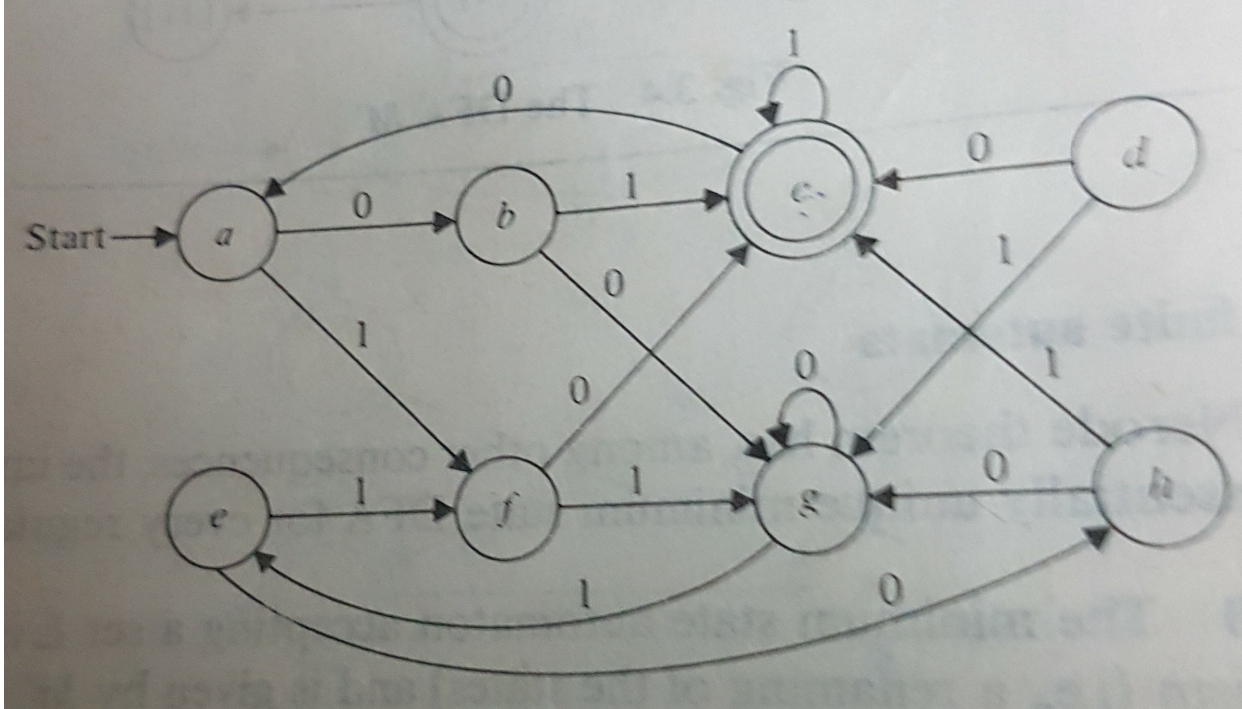
34) Given below are two statements
 Statement I: The family of context free languages is closed under homomorphism
 Statement II: The family of context free languages is closed under reversal

In light of the above statements, choose the correct answer from the options given below

- [Question ID = 2364] [Question Description = S1_q5Nz_PG_CMS_Q34]
- Both Statement I and Statement II are true [Option ID = 9453]
 - Both Statement I and Statement II are false [Option ID = 9454]
 - Statement I is true but Statement II is false [Option ID = 9455]
 - Statement I is false but Statement II is true [Option ID = 9456]

Correct Answer :-
 • Both Statement I and Statement II are true [Option ID = 9453]

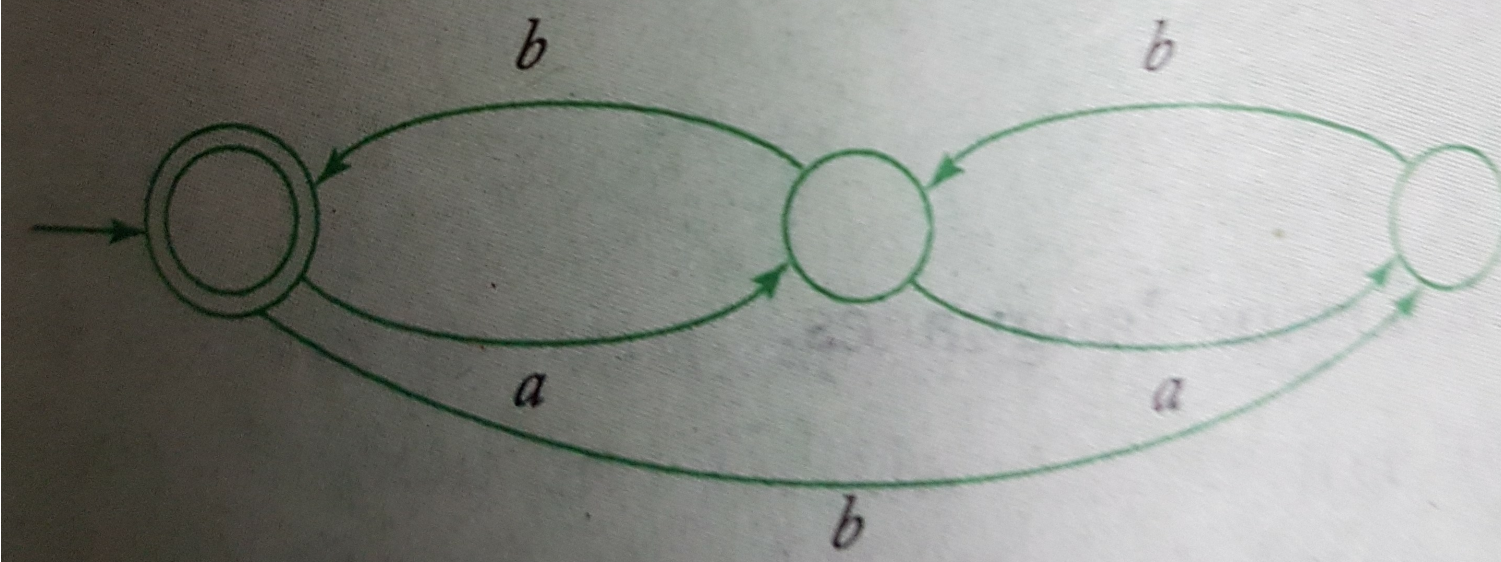
35) What is the minimum number of states required to the finite automaton equivalent to the transition diagram given below?



- [Question ID = 2365] [Question Description = S1_q5Nz_PG_CMS_Q35]
- 3 [Option ID = 9457]
 - 4 [Option ID = 9458]
 - 5 [Option ID = 9459]
 - 6 [Option ID = 9460]

Correct Answer :-
 • 3 [Option ID = 9457]

36) Find the regular expression for the language accepted by the automata given below.



[Question ID = 2366][Question Description = S1_q5Nz_PG_CMS_Q34]
 1. $\{aa^i (a-b)ab^j\}$ [Option ID = 9461]
 2. $\{a-babab-bb-aa^i (a-b)ab^j\}$ [Option ID = 9462]
 3. $\{ababab-bb-aa^i (a-b)ab^j\}$ [Option ID = 9463]
 4. $\{a^i (a-b)abab-bb-aa^i (a-b)ab^j\}$ [Option ID = 9464]

Correct Answer :-
 • $\{aa^i (a-b)ab^j\}$ [Option ID = 9461]

37) What language is accepted by the pushdown automaton
 $M = (\{q_0, q_1, q_2\}, \{a, b\}, \{a, b\}, \delta, q_0, z, \{q_2\})$
 with
 $\delta(q_0, a, a) = \{(q_0, aa)\}; \delta(q_0, b, a) = \{(q_0, ba)\}$
 $\delta(q_0, a, z) = \{(q_0, az)\}; \delta(q_0, b, z) = \{(q_0, bz)\}$
 $\delta(q_0, a, z) = \{(q_0, az)\}; \delta(q_0, b, z) = \{(q_0, bz)\}$
 $\delta(q_0, a, b) = \{(q_1, b)\}; \delta(q_0, a, a) = \{(q_1, a)\}$
 $\delta(q_1, a, a) = \{(q_1, A)\}; \delta(q_1, b, b) = \{(q_1, B)\}$
 $\delta(q_1, A, z) = \{(q_2, z)\}$

[Question ID = 2367][Question Description = S1_q5Nz_PG_CMS_Q37]
 1. $L = \{w \mid n_a(w) = n_b(w), w \in \{a, b\}^*\}$ [Option ID = 9465]
 2. $L = \{w \mid n_a(w) = n_b(w), w \in \{a, b\}^*\}$ [Option ID = 9466]
 3. $L = \{w \mid n_a(w) = n_b(w), w \in \{a, b\}^*\}$ [Option ID = 9467]
 4. $L = \{w \mid n_a(w) = n_b(w), w \in \{a, b\}^*\}$ [Option ID = 9468]

Correct Answer :-
 • $L = \{w \mid n_a(w) = n_b(w), w \in \{a, b\}^*\}$ [Option ID = 9465]

38) Match List I with List II

List I	List II
Production Rules A, S → XY X → 0 Y → 1	Grammar
B, S → aS bSS ε	I. Greibach Normal Form
C, S → AB A → 0A 1A 0 B → 0A	II. Context Sensitive Grammar
D, S → aAbc Ab → bA	III. Chomsky Normal Form
AC → Ebcc bb → Bb bB → aa aA	IV. S-Grammar

Choose the correct answer from the options given below:
 [Question ID = 2368][Question Description = S1_q5Nz_PG_CMS_Q38]
 1. A - II, B - I, C - IV, D - II [Option ID = 9469]
 2. A - III, B - I, C - I, D - IV [Option ID = 9470]
 3. A - III, B - IV, C - I, D - II [Option ID = 9471]
 4. A - III, B - III, C - I, D - II [Option ID = 9472]

Correct Answer :-
 • A - III, B - I, C - IV, D - II [Option ID = 9469]

39) Which of the following concepts can be used to identify loops?
 A. Depth first ordering
 B. Dominators
 C. Reducible graphs

Choose the correct answer from the options given below:
 [Question ID = 2369][Question Description = S1_q5Nz_PG_CMS_Q39]
 1. A and B only [Option ID = 9473]
 2. A and C only [Option ID = 9474]
 3. B and C only [Option ID = 9475]
 4. A, B and C [Option ID = 9476]

Correct Answer :-
 • A and B only [Option ID = 9473]

40) Given below are two statements
 Statement I: LL(1) and LR are examples of Bottom-up parsers.
 Statement II: Recursive descent parser and SLR are examples of Top-down parsers
 In light of the above statements, choose the correct answer from the options given below
 [Question ID = 2370][Question Description = S1_q5Nz_PG_CMS_Q40]
 1. Both Statement I and Statement II are true [Option ID = 9477]
 2. Both Statement I and Statement II are false [Option ID = 9478]
 3. Statement I is true but Statement II is false [Option ID = 9479]
 4. Statement I is false but Statement II is true [Option ID = 9480]

Correct Answer :-
 • Both Statement I and Statement II are true [Option ID = 9477]

41) The postfix form of the expression $(A + B) * (C * D - E) + F / G$ is _____. [Question ID = 2371][Question Description = S1_q5Nz_PG_CMS_Q41]
 1. $A * B + C * D * E * F / G$ [Option ID = 9481]
 2. $A * B + C * D * E * F * G /$ [Option ID = 9482]
 3. $A * B + C * D * E * F * G /$ [Option ID = 9483]
 4. $A * B + C * D * E * F * G /$ [Option ID = 9484]

Correct Answer :-
 • $A * B + C * D * E * F / G$ [Option ID = 9481]

42) A double-ended queue (deque) supports adding and removing items from both the ends of the queue. The operations supported by deque are AddFront(adding item to front of the queue), AddRear(adding item to the rear of the queue), RemoveFront(removing item from the front of the queue), and RemoveRear(removing item from the rear of the queue). You are given only stacks to implement this data structure. You can implement only push and pop operations. What's the time complexity of performing AddFront() and AddRear() assuming m is the size of the stack and n is the number of elements? [Question ID = 2372][Question Description = S1_q5Nz_PG_CMS_Q42]
 1. O(m) and O(n) [Option ID = 9485]
 2. O(1) and O(1) [Option ID = 9486]
 3. O(m) and O(1) [Option ID = 9487]
 4. O(n) and O(n) [Option ID = 9488]

Correct Answer :-
 • O(m) and O(n) [Option ID = 9485]

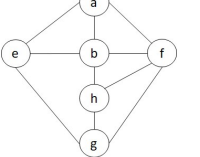
43) Two balanced binary trees are given with m and n elements, respectively. They can be merged into a balanced binary search tree in ____ time.
 [Question ID = 2373][Question Description = S1_q5Nz_PG_CMS_Q43]
 1. $O(m+n)$ [Option ID = 9489]
 2. $O(m \cdot n)$ [Option ID = 9490]
 3. $O(m \log m)$ [Option ID = 9491]
 4. $O(m \log(m+n))$ [Option ID = 9492]

Correct Answer :-
 • $O(m \log(m+n))$ [Option ID = 9492]

44) A data structure is required for storing a set of integers such that each of the following operations can be done in $O(\log n)$ time, where n is the number of elements in the set.
 • Deletion of the smallest element
 • Insertion of an element if it is not already present in the set

Which of the following data structures can be used for this purpose?
 [Question ID = 2374][Question Description = S1_q5Nz_PG_CMS_Q44]
 1. A heap can be used but not a balanced binary search tree. [Option ID = 9493]
 2. A balanced binary search tree can be used but not a heap. [Option ID = 9494]
 3. Both balanced binary search tree and heap can be used. [Option ID = 9495]
 4. Neither balanced binary search tree nor heap can be used. [Option ID = 9496]

Correct Answer :-
 • A heap can be used but not a balanced binary search tree. [Option ID = 9493]



I. a b e g h e
II. a b f e h g
III. a b f h g e
IV. a f g h b e

Which are depth first traversals of the above graph?
[Question ID = 2375][Question Description = 51_q5Nz_PG_CMS_Q45]
1. I, II, and IV only [Option ID = 9497]
2. I and IV only [Option ID = 9498]
3. II, III, and IV only [Option ID = 9499]
4. I, II, and IV only [Option ID = 9500]

Correct Answer :-
• I, II, and IV only [Option ID = 9497]

46) Given below are two statements
Statement I: In an undirected graph, number of odd degree vertices is even.
Statement II: In an undirected graph, sum of degrees of all vertices is even.
In light of the above statements, choose the correct answer from the options given below.

[Question ID = 2376][Question Description = 51_q5Nz_PG_CMS_Q46]
1. Both Statement I and Statement II are true. [Option ID = 9501]
2. Both Statement I and Statement II are false. [Option ID = 9502]
3. Statement I is true but Statement II is false. [Option ID = 9503]
4. Statement I is false but Statement II is true. [Option ID = 9504]

Correct Answer :-
• Both Statement I and Statement II are true. [Option ID = 9501]

47) Which of the given options provides the increasing order of asymptotic complexity of functions f1, f2, f3 and f4?
A. f1(n) = 2^n
B. f2(n) = n^2
C. f3(n) = n log n
D. f4(n) = n!n^n

Choose the correct answer from the options given below
[Question ID = 2377][Question Description = 51_q5Nz_PG_CMS_Q47]
1. C, B, D, A [Option ID = 9505]
2. C, B, A, D [Option ID = 9506]
3. B, C, A, D [Option ID = 9507]
4. B, C, D, A [Option ID = 9508]

Correct Answer :-
• C, B, D, A [Option ID = 9505]

48) The order of a leaf node in a B+ tree is the maximum number of (value, data record pointer) pairs it can hold. Given that the block size is 1K bytes, data record pointer is 7 bytes long, the value field is 9 bytes long and a block pointer is 6 bytes long, what is the order of the leaf node?
[Question ID = 2378][Question Description = 51_q5Nz_PG_CMS_Q48]
1. 63 [Option ID = 9509]
2. 64 [Option ID = 9510]
3. 67 [Option ID = 9511]
4. 68 [Option ID = 9512]

Correct Answer :-
• 63 [Option ID = 9509]

49) A hash function h defined as h(key)=key mod 7, with linear probing, is used to insert the keys 44, 45, 79, 55, 91, 18, 63 into a table indexed from 0 to 6. What will be the location of key 18?
[Question ID = 2379][Question Description = 51_q5Nz_PG_CMS_Q49]
1. 1 [Option ID = 9513]
2. 4 [Option ID = 9514]
3. 5 [Option ID = 9515]
4. 6 [Option ID = 9516]

Correct Answer :-
• 3 [Option ID = 9513]

50) In the following table, the left column contains the names of standard graph algorithms and the right column contains the time complexities of the algorithms. Here, n and m are number of vertices and edges, respectively. Match each algorithm with its time complexity.

List I	List II
A. Bellman-Ford algorithm	i. O(m^2 log n)
B. Kruskal's algorithm	ii. O(n^2)
C. Floyd-Warshall algorithm	iii. O(n^3 m)
D. Topological sorting	iv. O(n+m)

Choose the correct answer from the options given below:
[Question ID = 2380][Question Description = 51_q5Nz_PG_CMS_Q50]
1. A - iii, B - i, C - ii, D - iv [Option ID = 9517]
2. A - ii, B - iv, C - iii, D - i [Option ID = 9518]
3. A - iii, B - iv, C - i, D - ii [Option ID = 9519]
4. A - ii, B - i, C - iii, D - iv [Option ID = 9520]

Correct Answer :-
• A - iii, B - i, C - ii, D - iv [Option ID = 9517]

51) Which agent deals with the happy and unhappy state?
[Question ID = 2381][Question Description = 51_q5Nz_PG_CMS_Q51]
1. Utility based agent [Option ID = 9521]
2. Model based agent [Option ID = 9522]
3. Goal based Agent [Option ID = 9523]
4. Learning agent [Option ID = 9524]

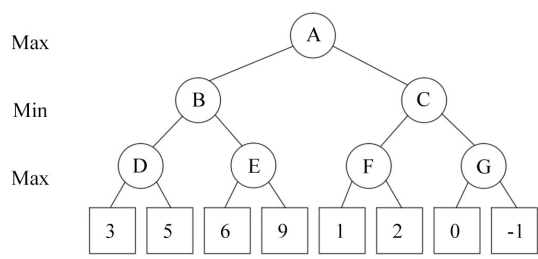
Correct Answer :-
• Utility based agent [Option ID = 9521]

52) Given below are two statements
Statement I: Breadth-First Search is optimal when all the step costs are equal whereas uniform-cost search is optimal with any step-cost.
Statement II: When all the step costs are same uniform-cost search expands more nodes at depth d than the Breadth-First Search.

In light of the above statements, choose the correct answer from the options given below
[Question ID = 2382][Question Description = 51_q5Nz_PG_CMS_Q52]
1. Both Statement I and Statement II are true [Option ID = 9525]
2. Both Statement I and Statement II are false [Option ID = 9526]
3. Statement I is true but Statement II is false [Option ID = 9527]
4. Statement I is false but Statement II is true [Option ID = 9528]

Correct Answer :-
• Both Statement I and Statement II are true [Option ID = 9525]

53) Consider the given tree below. Calculate the value at the root of the tree using alpha-beta pruning algorithm.



[Question ID = 2383][Question Description = 51_q5Nz_PG_CMS_Q53]
1. 3 [Option ID = 9529]
2. 5 [Option ID = 9530]
3. 6 [Option ID = 9531]
4. 9 [Option ID = 9532]

Correct Answer :-
• 3 [Option ID = 9529]

54) Which among the following statement(s) is(are) FALSE?
A. Greedy best-first search is not optimal but is often efficient.
B. A* is complete and optimal provided h(n) is admissible or consistent.
C. Recursive best-first search is efficient in terms of time complexity but poor in terms of space complexity.
D. h(n) = 0 is an admissible heuristic for the 8-puzzle.

[Question ID = 2384][Question Description = 51_q5Nz_PG_CMS_Q54]
1. A only [Option ID = 9533]
2. A and B only [Option ID = 9534]
3. C only [Option ID = 9535]
4. C and D only [Option ID = 9536]

Correct Answer :-
• A only [Option ID = 9533]

55) Consider the sentence below.
There is a country that borders both India and Pakistan.
Which of the following logical expressions express the above sentence correctly when the predicate Country(x) represents that x is a country and Borders(x, y) represents that the countries x and y share the border?

[Question ID = 2385][Question Description = 51_q5Nz_PG_CMS_Q55]
1. $\exists x (\text{Country}(x) \wedge \text{Border}(x, \text{India}) \wedge \text{Border}(x, \text{Pakistan}))$ [Option ID = 9537]
2. $\exists x (\text{Country}(x) \Rightarrow (\text{Border}(x, \text{India}) \wedge \text{Border}(x, \text{Pakistan})))$ [Option ID = 9538]
3. $\exists x (\text{Country}(x) \Rightarrow (\text{Border}(x, \text{India}) \wedge \text{Border}(x, \text{Pakistan})))$ [Option ID = 9539]
4. $\exists x (\text{Border}(\text{Country}(x), \text{India}) \wedge \text{Pakistan})$ [Option ID = 9540]

Correct Answer :-
• $\exists x (\text{Country}(x) \wedge \text{Border}(x, \text{India}) \wedge \text{Border}(x, \text{Pakistan}))$ [Option ID = 9537]

56) Next five questions are based on the following passage.
Consider a domain consisting of three Boolean variables Toothache, Cavity, and Catch. The full joint distribution is a 2x2x2 table as shown in the figure below.

	toothache	toothache
catch	0.108	0.012
catch	0.072	0.008
cavity	0.016	0.064
cavity	0.144	0.576

The marginal probability of cavity P(cavity) is _____ [Question ID = 2386][Question Description = 51_q5Nz_PG_CMS_Q56]
1. 0.200 [Option ID = 9541]
2. 0.216 [Option ID = 9542]
3. 0.120 [Option ID = 9543]
4. 0.080 [Option ID = 9544]

Correct Answer :-
• 0.200 [Option ID = 9541]

57) The probability of a cavity, given evidence of a toothache, P(cavity | toothache) is _____ [Question ID = 2387][Question Description = 51_q5Nz_PG_CMS_Q57]
1. 0.400 [Option ID = 9545]
2. 0.600 [Option ID = 9546]
3. 0.280 [Option ID = 9547]
4. 0.216 [Option ID = 9548]

Correct Answer :-
• 0.400 [Option ID = 9545]

58) The probability of a toothache, given evidence of a cavity, P(toothache | cavity) is _____ [Question ID = 2388][Question Description = 51_q5Nz_PG_CMS_Q58]
1. 0.400 [Option ID = 9549]
2. 0.600 [Option ID = 9550]
3. 0.280 [Option ID = 9551]
4. 0.216 [Option ID = 9552]

Correct Answer :-
• 0.400 [Option ID = 9549]

59) P(cavity | V toothache) is _____ [Question ID = 2389][Question Description = 51_q5Nz_PG_CMS_Q59]
1. 0.200 [Option ID = 9553]
2. 0.120 [Option ID = 9554]

3. 0.280 [Option ID = 9535]
4. 0.296 [Option ID = 9536]

Correct Answer :-
• 0.200 [Option ID = 9533]

60) The probability for Cavity, given that either Toothache or Catch is true, $P(\text{Cavity} | \text{toothache} \vee \text{catch})$ is _____ [Question ID = 2390][Question Description = S1_q5Nz_PG_CMS_Q60]

- 0.6000 [Option ID = 9537]
- 0.5384 [Option ID = 9538]
- 0.8000 [Option ID = 9539]
- 0.4615 [Option ID = 9540]

Correct Answer :-
• 0.6000 [Option ID = 9537]

61) Which of the DBMS component ensures that concurrent execution of multiple operations on the database results into a consistent database state?

[Question ID = 2391][Question Description = S1_q5Nz_PG_CMS_Q61]

- Logs [Option ID = 9541]
- Buffer manager [Option ID = 9542]
- File manager [Option ID = 9543]
- Transaction processing system [Option ID = 9544]

Correct Answer :-
• Logs [Option ID = 9541]

62) Consider following two statements:

Statement I: Relational database schema represents the logical design of the database.

Statement II: Current snapshot of a relation only provides the degree of the relation.

In the context to the above statements, choose the correct option from the options given below:

[Question ID = 2392][Question Description = S1_q5Nz_PG_CMS_Q62]

- Statement I is TRUE but Statement II is FALSE [Option ID = 9545]
- Statement I is FALSE but Statement II is TRUE [Option ID = 9546]
- Both Statement I and Statement II are FALSE [Option ID = 9547]
- Both Statement I and Statement II are TRUE [Option ID = 9548]

Correct Answer :-
• Statement I is TRUE but Statement II is FALSE [Option ID = 9545]

63) Given a fixed-length record file that is ordered on the key field. The file needs B disk blocks to store R number of records. Find the average access time needed to access any record of the given file using binary search.

[Question ID = 2393][Question Description = S1_q5Nz_PG_CMS_Q63]

- $\frac{B}{2}$
[Option ID = 9549]
- $B * R$ [Option ID = 9570]
- R [Option ID = 9571]
- $\log_2 B$
[Option ID = 9572]

Correct Answer :-
• $\frac{B}{2}$
[Option ID = 9549]

64) Given the following STUDENT-COURSE scheme: STUDENT (Rollno, Name, courseno) COURSE (courseno, coursename, capacity), where Rollno is the primary key of relation STUDENT and courseno is the primary key of relation COURSE. Attribute coursename of COURSE takes unique values only. Which of the following query(ies) will find total number of students enrolled in each course, along with its course name.

- SELECT coursename, count(*) total from STUDENT natural join COURSE group by course name;
- SELECT C.coursename, count(*) total from STUDENT S, COURSE C where S.courseno=C.courseno group by course name;
- SELECT coursename, count(*) total from COURSE C where courseno in (SELECT courseno from STUDENT);

[Question ID = 2394][Question Description = S1_q5Nz_PG_CMS_Q64]

- A and B only [Option ID = 9573]
- C only [Option ID = 9574]
- A only [Option ID = 9575]
- B only [Option ID = 9576]

Correct Answer :-
• A and B only [Option ID = 9573]

65) Given the following STUDENT-COURSE scheme: STUDENT (Rollno, Name, Courseno) COURSE (Courseno, Course name, Capacity), where Rollno is the primary key of relation STUDENT and Courseno is the primary key of relation COURSE. Attribute Course name of COURSE takes unique values only. The number of records in COURSE and STUDENT tables are 3 and 5 respectively. Following relational algebra query is executed: R=STUDENT X COURSE

Match List I with List II in context to the above problem statement.

List I	List II
A. Degree of table R	I. 15
B. Cardinality of table R	II. NIL
C. Foreign key of relation STUDENT	III. 6
D. Foreign key of relation COURSE	IV. Courseno

Choose the correct answer from the options given below:

[Question ID = 2395][Question Description = S1_q5Nz_PG_CMS_Q65]

- A, III, B, I, C, IV, D, II [Option ID = 9577]
- A, I, B, III, C, IV, D, II [Option ID = 9578]
- A, I, B, III, C, IV, D, II options 3 and 4 are same
- A, I, B, III, C, II, D, IV [Option ID = 9580]

Correct Answer :-
• A, III, B, I, C, IV, D, II [Option ID = 9577]

66) Suppose a B⁺ tree is used for indexing a database file. Consider the following information:

size of the search key field: 10 bytes, block size = 1024 bytes, size of the record pointer = 9 bytes, size of the block pointer = 8 bytes.

Let K be the order of internal node and L be the order of leaf node of B⁺ tree, then (K, L) = _____.

[Question ID = 2396][Question Description = S1_q5Nz_PG_CMS_Q66]

- (17, 53) [Option ID = 9581]
- (10, 52) [Option ID = 9582]
- (10, 64) [Option ID = 9583]
- (34, 31) [Option ID = 9584]

Correct Answer :-
• (17, 53) [Option ID = 9581]

67) Given a relation scheme R(x,y,z,w) with functional dependencies set F={x→y, z→w}. All attributes take single and atomic values only.

- Relation R is in First Normal FORM
- Relation R is in Second Normal FORM
- Primary key of R is xz

Choose the correct answer from the options given below:

[Question ID = 2397][Question Description = S1_q5Nz_PG_CMS_Q67]

- C only [Option ID = 9585]
- B and C only [Option ID = 9586]
- A and C only [Option ID = 9587]
- B only [Option ID = 9588]

Correct Answer :-
• C only [Option ID = 9585]

68) A company is consuming parts in the manufacturing of other products. Each of the part is either manufactured within the company or purchased from the external suppliers or both. For each part, part number, part name is maintained. Attribute batch number is maintained if the consumed part is manufactured in the company. If part is purchased from external supplier, then supplier name is maintained. Which of the following constraints need to be considered when modelling class/subclass concepts in ERD for the given problem.

[Question ID = 2398][Question Description = S1_q5Nz_PG_CMS_Q68]

- Total specialization and overlapping constraints [Option ID = 9589]
- Disjoint constraint only [Option ID = 9590]
- Partial participation [Option ID = 9591]
- Partial participation and disjoint constraints [Option ID = 9592]

Correct Answer :-
• Total specialization and overlapping constraints [Option ID = 9589]

69) A transaction may be in one of the following states during its execution life cycle in concurrent execution environment.

- FAILED
- TERMINATED
- PARTIALLY COMMITTED
- COMMITTED
- ACTIVE

Given a transaction in active state during its execution, find its next transitioned state from the options given below:

[Question ID = 2399][Question Description = S1_q5Nz_PG_CMS_Q69]

- A only [Option ID = 9593]
- Either A or C only [Option ID = 9594]
- C only [Option ID = 9595]
- D only [Option ID = 9596]

Correct Answer :-
• A only [Option ID = 9593]

70) Which of the following is used to create a database schema?

[Question ID = 2400][Question Description = S1_q5Nz_PG_CMS_Q70]

- DMB [Option ID = 9597]
- DDL [Option ID = 9598]
- HTAL [Option ID = 9599]
- XML [Option ID = 9600]

Correct Answer :-
• DMB [Option ID = 9597]

71) Given memory access time as p nanoseconds and additional q nanoseconds for handling the page fault. What is the effective memory access time if a page fault occurs once for every 100 instructions?

[Question ID = 2401][Question Description = S1_q5Nz_PG_CMS_Q71]

- $p + \frac{q}{100}$
[Option ID = 9601]
- $\frac{p+q}{100}$
[Option ID = 9602]
- $p + q$
[Option ID = 9603]
- $\frac{p}{100} + q$
[Option ID = 9604]

Correct Answer :-
• $p + \frac{q}{100}$
[Option ID = 9601]

72) In a file allocation system, the following allocation schemes are used:

- Contiguous
- Indexed
- Linked allocation

Which of the allocation scheme(s) given above will not suffer from external fragmentation? Choose the correct answer from the options given below:

[Question ID = 2402][Question Description = S1_q5Nz_PG_CMS_Q72]

- A only [Option ID = 9605]
- B and C only [Option ID = 9606]
- A and B only [Option ID = 9607]
- C only [Option ID = 9608]

Correct Answer :-
• A only [Option ID = 9605]

73) Given below are three statements related to interrupt handling mechanism

- Interrupt handler routine is not stored at a fixed address in the memory.
- CPU hardware has a dedicated wire called the interrupt request line used for handling interrupts
- Interrupt vector contains the memory addresses for specialized interrupt handlers.

In the context of above statements, choose the correct answer from the options given below:

[Question ID = 2403][Question Description = S1_q5Nz_PG_CMS_Q73]

- A is TRUE only [Option ID = 9609]
- Both B and C are TRUE only [Option ID = 9610]
- Both A and B are TRUE only [Option ID = 9611]
- Both A, C are TRUE only [Option ID = 9612]

Correct Answer :-
• A is TRUE [Option ID - 9695]

74) Match List I with List II

List I	List II
System calls	Description
A. fork()	I. Sends a signal from one process to another process
B. exec()	II. Indicates termination of the current process
C. kill()	III. Loads the specified program in the memory
D. exit()	IV. Creates a child process

Choose the correct answer from the options given below:

[Question ID = 2404][Question Description = 51_q5Nz_PG_CMS_Q74]

1. A - I, B - III, C - IV, D - II [Option ID = 9613]
2. A - IV, B - III, C - I, D - II [Option ID = 9614]
3. A - IV, B - I, C - II, D - III [Option ID = 9615]
4. A - IV, B - III, C - II, D - I [Option ID = 9616]

Correct Answer :-

- A - I, B - III, C - IV, D - I [Option ID = 9613]

75) Consider the following 3 processes with the length of the CPU burst time given in milliseconds:

Process	Arrival Time	Burst Time
P1	0	8
P2	1	4
P3	2	9

What is the average waiting time for these processes if they are scheduled using preemptive shortest job first scheduling algorithm?

[Question ID = 2405][Question Description = 51_q5Nz_PG_CMS_Q75]

1. 5.9 [Option ID = 9617]
2. 4.6 [Option ID = 9618]
3. 4.66 [Option ID = 9619]
4. 5 [Option ID = 9620]

Correct Answer :-

- 5.5 [Option ID = 9617]

Topic:- CSA1_SHAAN_NOV21B

1) Read the following and answer the questions:

Consider a machine with 16 GB main memory and 32-bits virtual address space, with page size as 4KB. Frame size and page size is same for the given machine.

The number of bits reserved for the frame offset is _____. [Question ID = 2406][Question Description = 51_q5Nz_PG_CMS_Q76]

1. 12 [Option ID = 9621]
2. 14 [Option ID = 9622]
3. 32 [Option ID = 9623]
4. 8 [Option ID = 9624]

Correct Answer :-

- 12 [Option ID = 9621]

2) Read the following and answer the questions:

Consider a machine with 16 GB main memory and 32-bits virtual address space, with page size as 4KB. Frame size and page size is same for the given machine.

Find number of pages required for the given virtual address space [Question ID = 2407][Question Description = 51_q5Nz_PG_CMS_Q77]

1. 2^{20} [Option ID = 9625]
2. 2^{20} [Option ID = 9626]
3. 2^{20} [Option ID = 9627]
4. 2^{20} [Option ID = 9628]

Correct Answer :-

- 2^{20} [Option ID = 9625]

3) Read the following and answer the questions:

Consider a machine with 16 GB main memory and 32-bits virtual address space, with page size as 4KB. Frame size and page size is same for the given machine.

What is the minimum number of bits needed for the physical address? [Question ID = 2408][Question Description = 51_q5Nz_PG_CMS_Q78]

1. 28 [Option ID = 9629]
2. 34 [Option ID = 9630]
3. 24 [Option ID = 9631]
4. 12 [Option ID = 9632]

Correct Answer :-

- 28 [Option ID = 9629]

4) Read the following and answer the questions:

Consider a machine with 16 GB main memory and 32-bits virtual address space, with page size as 4KB. Frame size and page size is same for the given machine.

What is the size of page table for handling the given virtual address space, given that each page table entry is of size 2 bytes?

[Question ID = 2409][Question Description = 51_q5Nz_PG_CMS_Q79]

1. 2MB [Option ID = 9633]
2. 2MB [Option ID = 9634]
3. 32MB [Option ID = 9635]
4. 12MB [Option ID = 9636]

Correct Answer :-

- 2MB [Option ID = 9633]

5) Read the following and answer the questions:

Consider a machine with 16 GB main memory and 32-bits virtual address space, with page size as 4KB. Frame size and page size is same for the given machine.

If a process of size 34KB is to be executed on this machine, then what will be the size of internal fragmentation for this process? [Question ID = 2410][Question Description = 51_q5Nz_PG_CMS_Q80]

1. 4KB [Option ID = 9637]
2. Zero [Option ID = 9638]
3. 1MB [Option ID = 9639]
4. 2MB [Option ID = 9640]

Correct Answer :-

- 4KB [Option ID = 9637]

Topic:- CSA1_SHAAN_NOV21C

1) Match List I with List II

List I	List II
A. Odd Function	I. NAND gate
B. Universal Gate	II. XOR gate
C. 2421 code	III. Amplification
D. Buffer	IV. Self-Complementing

Choose the correct answer from the options given below:

[Question ID = 2411][Question Description = 51_q5Nz_PG_CMS_Q81]

1. A - I, B - II, C - III, D - IV [Option ID = 9641]
2. A - II, B - I, C - IV, D - III [Option ID = 9642]
3. A - I, B - III, C - II, D - IV [Option ID = 9643]
4. A - IV, B - II, C - III, D - I [Option ID = 9644]

Correct Answer :-

- A - I, B - II, C - III, D - IV [Option ID = 9641]

2) The Octal equivalent of hexadecimal (D.C)₁₆ is: [Question ID = 2412][Question Description = 51_q5Nz_PG_CMS_Q82]

1. (15.4)₈ [Option ID = 9645]
2. (65.4)₈ [Option ID = 9646]
3. (15.3)₈ [Option ID = 9647]
4. (61.3)₈ [Option ID = 9648]

Correct Answer :-

- (15.4)₈ [Option ID = 9645]

3) A digital computer has a common bus system for 8 registers 16 bits each. How many multiplexers are required to implement common bus? What size of multiplexers is required?

[Question ID = 2413][Question Description = 51_q5Nz_PG_CMS_Q83]

1. 16, 8x1 [Option ID = 9649]
2. 8, 16x1 [Option ID = 9650]
3. 8, 8x1 [Option ID = 9651]
4. 16, 16x1 [Option ID = 9652]

Correct Answer :-

- 16, 8x1 [Option ID = 9649]

4) Which of the following is not an example of pseudo-instruction? [Question ID = 2414][Question Description = 51_q5Nz_PG_CMS_Q84]

1. ORG [Option ID = 9653]
2. DEC [Option ID = 9654]
3. END [Option ID = 9655]
4. HLT [Option ID = 9656]

Correct Answer :-

- ORG [Option ID = 9653]

5) The reverse Polish notation of the following infix expression $[A*(B+C*(D-E))] / ((F*(G+H))$ is _____. [Question ID = 2415][Question Description = 51_q5Nz_PG_CMS_Q85]

1. ABCDE*+FGH+/ [Option ID = 9657]
2. ABCE*+FGH+/ [Option ID = 9658]
3. ABCE*+FGH+/ [Option ID = 9659]
4. ABCE*+FGH+/ [Option ID = 9660]

Correct Answer :-

- ABCE*+FGH+/ [Option ID = 9657]

6) Arrange the following in the increasing order of complexity.

- A. I/O Module
- B. I/O processor
- C. I/O Channel
- D. DMA

Choose the correct answer from the options given below

[Question ID = 2416][Question Description = 51_q5Nz_PG_CMS_Q86]

1. D, C, B, A [Option ID = 9661]
2. C, D, A, B [Option ID = 9662]
3. A, B, C, D [Option ID = 9663]
4. A, D, C, B [Option ID = 9664]

Correct Answer :-

- D, C, B, A [Option ID = 9661]

7) The characteristics of the combinational circuits are:

- A. Output at any time is function of inputs at that time
- B. Contains memory elements
- C. Do not have feedback paths
- D. Clock is used to trigger the circuits to obtain outputs

Choose the correct answer from the options given below:

[Question ID = 2417][Question Description = 51_q5Nz_PG_CMS_Q87]

1. A and B only [Option ID = 9665]
2. B and C only [Option ID = 9666]
3. A and C only [Option ID = 9667]
4. B and D only [Option ID = 9668]

Correct Answer :-

- A and B only [Option ID = 9665]

8) The cache coherence problem can be solved

- A. by having multiprot memory
- B. allow only nonshared data to be stored in cache
- C. using a snoopy cache controller
- D. using memory interleaving

Choose the correct answer from the options given below:

[Question ID = 2418][Question Description = 51_q5Nz_PG_CMS_Q88]

1. A and C only [Option ID = 9669]
2. B and C only [Option ID = 9670]
3. D and C only [Option ID = 9671]
4. B and D only [Option ID = 9672]

Correct Answer :-

- A and C only [Option ID = 9669]

9) Given below are two statements

Statement I: CSC computers have a large number of addressing modes.
Statement II: In RISC machines memory access is limited to load and store instructions.

In light of the above statements, choose the correct answer from the options given below

[Question ID = 2419][Question Description = S1_q5Nz_PG_CMS_Q89]

- Both Statement I and Statement II are true [Option ID = 9673]
- Both Statement I and Statement II are false [Option ID = 9674]
- Statement I is true but Statement II is false [Option ID = 9675]
- Statement I is false but Statement II is true [Option ID = 9676]

Correct Answer :-

- Both Statement I and Statement II are true [Option ID = 9673]

10) Which of the following statement is true?

- Control memory is part of the hardwired control unit.
- Program control instructions are used to alter the sequential flow of the program.
- The register indirect addressing mode for accessing memory operand is similar to displacement addressing mode.
- CPU utilization is not affected by the introduction of interrupts.

[Question ID = 2420][Question Description = S1_q5Nz_PG_CMS_Q90]

- A [Option ID = 9677]
- B [Option ID = 9678]
- C [Option ID = 9679]
- D [Option ID = 9680]

Correct Answer :-

- A [Option ID = 9677]

11) Match List I with List II

List I	List II
A. Data Link Layer	i. True end-to-end layer
B. Network Layer	ii. Token Management
C. Transport Layer	iii. Produce billing information
D. Session Layer	iv. Piggybacking

Choose the correct answer from the options given below:

[Question ID = 2421][Question Description = S1_q5Nz_PG_CMS_Q91]

- A - IV, B - III, C - I, D - II [Option ID = 9681]
- A - IV, B - III, C - I, D - III [Option ID = 9682]
- A - II, B - III, C - I, D - IV [Option ID = 9683]
- A - IV, B - I, C - III, D - II [Option ID = 9684]

Correct Answer :-

- A - IV, B - III, C - I, D - II [Option ID = 9681]

12) Given below are two statements

Statement I:

Telnet, Ftp, Http are application layer protocol

Statement II:

The Iridium project was planned to launch 66 low orbit satellites.

In light of the above statements, choose the correct answer from the options given below

[Question ID = 2422][Question Description = S1_q5Nz_PG_CMS_Q92]

- Both Statement I and Statement II are true [Option ID = 9685]
- Both Statement I and Statement II are false [Option ID = 9686]
- Statement I is true but Statement II is false [Option ID = 9687]
- Statement I is false but Statement II is true [Option ID = 9688]

Correct Answer :-

- Both Statement I and Statement II are true [Option ID = 9685]

13) Which of the following statement is False?[Question ID = 2423][Question Description = S1_q5Nz_PG_CMS_Q93]

- Packet switching leads to better utilization of bandwidth resources than circuit switching. [Option ID = 9689]
- Packet switching results in less variation in the delay than circuit switching. [Option ID = 9690]
- Packet switching sender and receiver can use any bit rate, format or framing method unlike circuit switching. [Option ID = 9691]
- Packet switching can lead to reordering unlike circuit switching. [Option ID = 9692]

Correct Answer :-

- Packet switching leads to better utilization of bandwidth resources than circuit switching. [Option ID = 9689]

14) In Ethernet when Manchester coding is used, the bit rate is _____.[Question ID = 2424][Question Description = S1_q5Nz_PG_CMS_Q94]

- Half the baud rate [Option ID = 9693]
- twice the baud rate [Option ID = 9694]
- Thrice the baud rate [Option ID = 9695]
- Same as the baud rate [Option ID = 9696]

Correct Answer :-

- Half the baud rate [Option ID = 9693]

15) The address of class B host is to be split into subnets with 6-bit subnet number. What is the maximum number of the subnets and the maximum number of hosts in each subnet?[Question ID = 2425][Question Description = S1_q5Nz_PG_CMS_Q95]

- 62 subnets and 262142 hosts [Option ID = 9697]
- 64 subnets and 1024 hosts [Option ID = 9698]
- 64 subnets and hosts 262142 [Option ID = 9699]
- 62 subnets and 1022 hosts [Option ID = 9700]

Correct Answer :-

- 62 subnets and 262142 hosts [Option ID = 9697]

16) In electronic mail, which of the following protocols allows the transfer of multimedia?[Question ID = 2426][Question Description = S1_q5Nz_PG_CMS_Q96]

- IMAP [Option ID = 9701]
- SMTP [Option ID = 9702]
- POP3 [Option ID = 9703]
- MIME [Option ID = 9704]

Correct Answer :-

- IMAP [Option ID = 9701]

17) A message is encrypted using public key cryptography to send a message from sender to receiver. Which one of the following statements is True?

[Question ID = 2427][Question Description = S1_q5Nz_PG_CMS_Q97]

- Sender encrypts using receiver's public key [Option ID = 9705]
- Sender encrypts using his own public key [Option ID = 9706]
- Receiver encrypts using sender's public key [Option ID = 9707]
- Receiver decrypts using his own public key [Option ID = 9708]

Correct Answer :-

- Sender encrypts using receiver's public key [Option ID = 9705]

18) Which of the following statements are true?

- Frequency division multiplexing technique can be handled by digital circuits.
- Time division multiplexing technique can be handled by analog circuits
- Wavelength division multiplexing technique is used with optical fiber for combining two signals.
- Frequency division multiplexing technique can be applied when the bandwidth of a link is greater than the bandwidth of the signals to be transmitted.

Choose the correct answer from the options given below:

[Question ID = 2428][Question Description = S1_q5Nz_PG_CMS_Q98]

- B and D only [Option ID = 9709]
- C and D only [Option ID = 9710]
- A and D only [Option ID = 9711]
- B and D only [Option ID = 9712]

Correct Answer :-

- B and D only [Option ID = 9709]

19) Which of the following statements are true?

- X.25 is connection-oriented network
- X.25 doesn't support switched virtual circuits.
- Frame relay service provides acknowledgments.
- Frame relay service provides detection of transmission errors.

Choose the correct answer from the options given below:

[Question ID = 2429][Question Description = S1_q5Nz_PG_CMS_Q99]

- A and D only [Option ID = 9713]
- B and D only [Option ID = 9714]
- C and D only [Option ID = 9715]
- B and C only [Option ID = 9716]

Correct Answer :-

- A and D only [Option ID = 9713]

20) Let G(x) be the generator polynomial used for CRC checking. The condition that should be satisfied by the G(x) to catch all errors consisting of an odd number of inverted bits is:[Question ID = 2430][Question Description = S1_q5Nz_PG_CMS_Q100]

- (x+1) is factor of G(x) [Option ID = 9717]
- (x-1) is factor of G(x) [Option ID = 9718]
- (x²+1) is factor of G(x) [Option ID = 9719]
- (1-x²) is factor of G(x) [Option ID = 9720]

Correct Answer :-

- (x+1) is factor of G(x) [Option ID = 9717]

Topic:- GP_26NDV_SHZ_A

1) Study the given table carefully and answer the questions that follow

The following table has semester fees for four different courses in 5 different years

Years	BCA	MCA	MTEch	MPhil
2016	25000	52000	60200	30000
2017	26500	53500	61400	32000
2018	27200	54200	62500	32600
2019	27600	55700	62900	33400
2020	28000	56800	63700	33900

આપણે આ કોષ્ટકને ધ્યાનમાં લઈને નીચેના પ્રશ્નોનો ઉત્તર આપવો પડશે :

આપણે આ કોષ્ટકને ધ્યાનમાં લઈને નીચેના પ્રશ્નોનો ઉત્તર આપવો પડશે :

વર્ષ	BCA	MCA	MTEch	MPhil
2016	25000	52000	60200	30000
2017	26500	53500	61400	32000
2018	27200	54200	62500	32600
2019	27600	55700	62900	33400
2020	28000	56800	63700	33900

What is the difference between the average semester fees of BCA and average semester fees of MCA during 2016-2020?

2016-2020 માં એવરેજ સેમેસ્ટર ફીઝનો ભેદ શું છે? BCA અને એવરેજ સેમેસ્ટર ફીઝનો ભેદ શું છે?

[Question ID = 2431][Question Description = S2_q5Nz_PG_GP24_Q01]

- 27200/27200 [Option ID = 9721]
- 27861/27861 [Option ID = 9722]
- 27986/27986 [Option ID = 9723]
- 27400/27400 [Option ID = 9724]

Correct Answer :-

- 27200/27200 [Option ID = 9721]

2) Study the given table carefully and answer the questions that follow

The following table has semester fees for four different courses in 5 different years

Years	BCA	MCA	MTEch	MPhil
2016	25000	52000	61400	30000
2017	26500	53500	61400	32000
2018	27200	54200	62500	32600
2019	27600	55700	62900	33400
2020	28000	56800	63700	33900

આપણે આ કોષ્ટકને ધ્યાનમાં લઈને નીચેના પ્રશ્નોનો ઉત્તર આપવો પડશે :

આપણે આ કોષ્ટકને ધ્યાનમાં લઈને નીચેના પ્રશ્નોનો ઉત્તર આપવો પડશે :

વર્ષ	BCA	MCA	MTEch	MPhil
2016	25000	52000	61400	30000
2017	26500	53500	61400	32000
2018	27200	54200	62500	32600
2019	27600	55700	62900	33400
2020	28000	56800	63700	33900

2018 27200 54200 62500 12000
2019 27600 55700 62900 13400
2020 28000 56800 63700 13900

Which course has highest percentage fee increase from 2019 to 2020?

Which course has the highest percentage fee increase from 2019 to 2020?

- [Question ID = 2432][Question Description = S2_q5Nz_PG_GP24_QD02]
- BCA/BA/B.A. [Option ID = 9725]
 - MCA/MA/BA [Option ID = 9726]
 - M.Tech./M.A. [Option ID = 9727]
 - M.Phil./MA/BA [Option ID = 9728]

Correct Answer :-
 • BCA/BA/B.A. [Option ID = 9725]

3) Study the given table carefully and answer the questions that follow

The following table has semester fees for four different courses in 5 different years

Years	BCA	MCA	M.Tech	MPhil
2016	25000	52000	60200	30000
2017	26500	53500	61400	32000
2018	27200	54200	62500	33600
2019	27600	55700	62900	33400
2020	28000	56800	63700	33900

Which course has the lowest percentage fee increase from 2017-2018?

Which course has the lowest percentage fee increase from 2017-2018?

- [Question ID = 2433][Question Description = S2_q5Nz_PG_GP24_QD03]
- BCA/BA/B.A. [Option ID = 9729]
 - MCA/MA/BA [Option ID = 9730]
 - M.Tech./M.A. [Option ID = 9731]
 - M.Phil./MA/BA [Option ID = 9732]

Correct Answer :-
 • BCA/BA/B.A. [Option ID = 9729]

4) Study the given table carefully and answer the questions that follow

The following table has semester fees for four different courses in 5 different years

Years	BCA	MCA	M.Tech	MPhil
2016	25000	52000	60200	30000
2017	26500	53500	61400	32000
2018	27200	54200	62500	33600
2019	27600	55700	62900	33400
2020	28000	56800	63700	33900

Find out the difference between total semester fees (for all courses) of 2018 and 2019.

Find out the difference between total semester fees (for all courses) of 2018 and 2019.

- [Question ID = 2434][Question Description = S2_q5Nz_PG_GP24_QD04]
- 3250/3250 [Option ID = 9733]
 - 3270/3270 [Option ID = 9734]
 - 3100/3100 [Option ID = 9735]
 - 3100/3100 [Option ID = 9736]

Correct Answer :-
 • 3250/3250 [Option ID = 9733]

5) Study the given table carefully and answer the questions that follow

The following table has semester fees for four different courses in 5 different years

Years	BCA	MCA	M.Tech	MPhil
2016	25000	52000	60200	30000
2017	26500	53500	61400	32000
2018	27200	54200	62500	33600
2019	27600	55700	62900	33400
2020	28000	56800	63700	33900

Find out the average of difference of fees of MCA and MTech for 2016-2020.

Find out the average of difference of fees of MCA and MTech for 2016-2020.

- [Question ID = 2435][Question Description = S2_q5Nz_PG_GP24_QD05]
- 7700/7700 [Option ID = 9737]
 - 7600/7600 [Option ID = 9738]
 - 7600/7600 [Option ID = 9739]
 - 7750/7750 [Option ID = 9740]

Correct Answer :-
 • 7700/7700 [Option ID = 9737]

Topic:- GP_26MOV_SH2_B

1) The web portal of Swayam Prabha is maintained by

Which portal is maintained by Swayam Prabha?

- [Question ID = 2436][Question Description = S2_q5Nz_PG_GP24_QD06]
- Indian Institute of Technology, Kharagpur/वेदिका [Option ID = 9741]
 - Doordarshan/Ignite [Option ID = 9742]
 - Google India office/गूगल [Option ID = 9743]
 - INFLIBNET Centre/इन्फ्लिबनेट [Option ID = 9744]

Correct Answer :-
 • Indian Institute of Technology, Kharagpur/वेदिका [Option ID = 9741]

2) The National Repository of Open Educational Resources is managed by

Which organization manages the National Repository of Open Educational Resources?

- [Question ID = 2437][Question Description = S2_q5Nz_PG_GP24_QD07]
- Indian Institute of Technology, Delhi/वेदिका [Option ID = 9745]
 - Indira Gandhi National Open University/इंदिरा गांधी नेशनल ओपन यूनिवर्सिटी [Option ID = 9746]
 - Central Institute of Educational Technology/केन्द्रीय शिक्षण प्रौद्योगिकी संस्थान, लखनऊ [Option ID = 9747]
 - University Grants Commission/उच्च शिक्षण आयोग [Option ID = 9748]

Correct Answer :-
 • Indian Institute of Technology, Delhi/वेदिका [Option ID = 9745]

3) Given below are two statements

Statement I: The ability to form and use symbols (words, gestures, signs, images, and so on) are accomplished in the preoperational period.

Statement II: According to Piaget, preoperational children do not have a tendency to be egocentric.

In light of the above statements, choose the most appropriate answer from the options given below

Which is the correct answer?

- [Question ID = 2438][Question Description = S2_q5Nz_PG_GP24_QD08]
- Both Statement I and Statement II are correct/दोनों कथन सही हैं [Option ID = 9749]
 - Both Statement I and Statement II are incorrect/दोनों कथन गलत हैं [Option ID = 9750]
 - Statement I is correct but Statement II is incorrect/कथन I सही है, कथन II गलत है [Option ID = 9751]
 - Statement I is incorrect but Statement II is correct/कथन I गलत है, कथन II सही है [Option ID = 9752]

Correct Answer :-
 • Both Statement I and Statement II are correct/दोनों कथन सही हैं [Option ID = 9749]

4) SWAYAM platform was developed by

Which organization developed the SWAYAM platform?

- [Question ID = 2439][Question Description = S2_q5Nz_PG_GP24_QD09]
- MHRD (now Ministry of Education), Government of India
 - Google
 - Microsoft
 - IT, Delhi
 - Adobe Inc.

Choose the correct answer from the options given below:

Which is the correct answer?

- [Question ID = 2439][Question Description = S2_q5Nz_PG_GP24_QD09]
- व्याज आयोग, भारत सरकार
 - गूगल
 - माइक्रोसॉफ्ट
 - दिल्ली, आईटी
 - एडोबे इंक.

Choose the correct answer from the options given below:

Which is the correct answer?

- [Question ID = 2439][Question Description = S2_q5Nz_PG_GP24_QD09]
- व्याज आयोग, भारत सरकार
 - गूगल
 - माइक्रोसॉफ्ट
 - दिल्ली, आईटी
 - एडोबे इंक.

Which is the correct answer?

- [Question ID = 2439][Question Description = S2_q5Nz_PG_GP24_QD09]
- व्याज आयोग, भारत सरकार
 - गूगल
 - माइक्रोसॉफ्ट
 - दिल्ली, आईटी
 - एडोबे इंक.

Which is the correct answer?

- [Question ID = 2439][Question Description = S2_q5Nz_PG_GP24_QD09]
- व्याज आयोग, भारत सरकार
 - गूगल
 - माइक्रोसॉफ्ट
 - दिल्ली, आईटी
 - एडोबे इंक.

Which is the correct answer?

- [Question ID = 2439][Question Description = S2_q5Nz_PG_GP24_QD09]
- व्याज आयोग, भारत सरकार
 - गूगल
 - माइक्रोसॉफ्ट
 - दिल्ली, आईटी
 - एडोबे इंक.

Which is the correct answer?

- [Question ID = 2439][Question Description = S2_q5Nz_PG_GP24_QD09]
- व्याज आयोग, भारत सरकार
 - गूगल
 - माइक्रोसॉफ्ट
 - दिल्ली, आईटी
 - एडोबे इंक.

1. A and B only/अन A आ B
[Option ID = 9753]
2. A and C only/अन A आ C
[Option ID = 9754]
3. B and D only/अन B आ D
[Option ID = 9755]
4. D and E only/अन D आ E
[Option ID = 9756]

Correct Answer :-
• A and B only/अन A आ B
[Option ID = 9753]

5) Match List I with List II

List I	List II
MOC Platform	Developer
A. Coursera	I. Anant Agarwal
B. Udacity	II. Salman Khan
C. Edx	III. Andrew Ng, Daphne Koller
D. Khan Academy/IV. Sebastian Thrun	

Choose the correct answer from the options given below:

सूची-I को सूची-II से मिलाएँ दीजिए :

सूची-I	सूची-II
एन सीएल	आइआई
A. मोडस	I. अनंत अग्रवाल
B. उदायिटी	II. सलमन खान
C. ई डेक्स	III. एंग्रुव नंग, दफने कोलर
D. खान अकादमी/IV. सेबैस्टियन थ्रुन	

सही विकल्प चुनें।
[Question ID = 2440][Question Description = 52_q5Nz_PG_GP24_Q10]

- A, I, B, C, II, D, IV [Option ID = 9757]
- A, II, B, IV, C, I, D, III [Option ID = 9758]
- A, IV, B, I, C, II, D, III [Option ID = 9759]
- A, II, B, III, C, IV, D, I [Option ID = 9760]

Correct Answer :-
• A, I, B, C, II, D, IV [Option ID = 9757]

6) If a researcher has to test a hypothesis whether the difference between the means of two groups are significant, s/he will use:

यदि किसी शोधकर्ता को यह परीक्षण करना है कि दो समूहों के अंतर में कोई महत्वपूर्ण अंतर है, तो वह निम्नलिखित में से कौन सा विधि का उपयोग करेगा ?

[Question ID = 2441][Question Description = 52_q5Nz_PG_GP24_Q11]

- Chi-square test/तंत्र संतुलन परीक्षण [Option ID = 9761]
- Correlation coefficient/संबंध गुणांक [Option ID = 9762]
- Sign test/संकेत परीक्षण [Option ID = 9763]
- Student's t-test/सूच्य संतुलन परीक्षण [Option ID = 9764]

Correct Answer :-
• Chi-square test/तंत्र संतुलन परीक्षण [Option ID = 9761]

7) Which of the following are the stages of meta analysis?

- Understand the literature
- Conduct new studies to fill the gap
- Develop inclusion and exclusion criteria of the study
- Locating primary studies
- Identify secondary data

Choose the correct answer from the options given below:

मेटा-विश्लेषण के चरणों में निम्नलिखित में से कौन से शामिल हैं ?

- संबंधित साहित्य को समझें
- अंतर को भरने के लिए नए अध्ययन करें
- विश्लेषण के लिए समावेश और अस्वीकार्यता के मानक तैयार करें
- प्राथमिक अध्ययन को खोजें
- द्वितीयक डेटा की पहचान करें

सही विकल्प चुनें।
[Question ID = 2442][Question Description = 52_q5Nz_PG_GP24_Q12]

- A, B and D only/अन A, B आ D [Option ID = 9765]
- B, C and D only/अन B, C आ D [Option ID = 9766]
- A, C and D only/अन A, C आ D [Option ID = 9767]
- B, D and E only/अन B, D आ E [Option ID = 9768]

Correct Answer :-
• A, B and D only/अन A, B आ D [Option ID = 9765]

8) Given below are two statements

Statement I: Parametric statistics are more powerful than non-parametric statistics

Statement II: Parametric statistics are assumption free statistics

In light of the above statements, choose the correct answer from the options given below

सही विकल्प चुनें।

कथन - I : प्राचलिक सांख्यिकी अधिक शक्तिशाली है।

कथन - II : प्राचलिक सांख्यिकी मान्यताओं से मुक्त है।

उपरोक्त कथनों के आधार पर निम्नलिखित विकल्पों में से सही उत्तर चुनें।

- Both Statement I and Statement II are true/दोनों कथन सत्य हैं। [Option ID = 9769]
- Both Statement I and Statement II are false/दोनों कथन असत्य हैं। [Option ID = 9770]
- Statement I is true but Statement II is false/कथन I सत्य है, कथन II असत्य है। [Option ID = 9771]
- Statement I is false but Statement II is true/कथन I असत्य है, कथन II सत्य है। [Option ID = 9772]

Correct Answer :-
• Both Statement I and Statement II are true/दोनों कथन सत्य हैं। [Option ID = 9769]

9) Which among the following methods is commonly used in anthropological research?

मनुष्यशास्त्र में निम्नलिखित में से कौन सा विधि सामान्यतः उपयोग में आती है ?

[Question ID = 2444][Question Description = 52_q5Nz_PG_GP24_Q14]

- Survey method/सर्वेक्षण विधि [Option ID = 9773]
- Case study method/संकेत अध्ययन विधि [Option ID = 9774]
- Life history method/जीवन-इतिहास विधि [Option ID = 9775]
- Ethnographic method/सांस्कृतिक विधि [Option ID = 9776]

Correct Answer :-
• Survey method/सर्वेक्षण विधि [Option ID = 9773]

10) Given below are two statements

Statement I: Exploratory studies mainly aim at developing hypotheses or questions for further research.

Statement II: The goal of formal study is to test the hypotheses or answer the questions posed.

In light of the above statements, choose the correct answer from the options given below

सही विकल्प चुनें।

कथन - I : खोजी अध्ययन मुख्यतः संभावित प्रश्नों को विकसित करने के लिए होते हैं।

कथन - II : औपचारिक अध्ययन का उद्देश्य संभावित प्रश्नों को परीक्षण करना या प्रश्नों का उत्तर देना है।

उपरोक्त कथनों के आधार पर निम्नलिखित विकल्पों में से सही उत्तर चुनें।

- Both Statement I and Statement II are true/दोनों कथन सत्य हैं। [Option ID = 9777]
- Both Statement I and Statement II are false/दोनों कथन असत्य हैं। [Option ID = 9778]
- Statement I is true but Statement II is false/कथन I सत्य है, कथन II असत्य है। [Option ID = 9779]
- Statement I is false but Statement II is true/कथन I असत्य है, कथन II सत्य है। [Option ID = 9780]

Correct Answer :-
• Both Statement I and Statement II are true/दोनों कथन सत्य हैं। [Option ID = 9777]

11) In communication, entropy refers to ?

संचार में एन्ट्रॉपी (एन्ट्रॉपी) का अर्थ क्या है ?

[Question ID = 2446][Question Description = 52_q5Nz_PG_GP24_Q16]

- Predictable message/प्राचलिक संदेश [Option ID = 9781]
- Unpredictable message/अप्राचलिक संदेश [Option ID = 9782]
- Oratory/वक्तावली [Option ID = 9783]
- Defensive speech/रक्षात्मक वक्तव्य [Option ID = 9784]

Correct Answer :-
• Predictable message/प्राचलिक संदेश [Option ID = 9781]

12) Keeping quiet because of fear of punishment in communication is an _____ barrier.

संचार में डर के कारण चुप रहना एक _____ बाधा है।

[Question ID = 2447][Question Description = 52_q5Nz_PG_GP24_Q17]

- Institutional/संस्थानिक [Option ID = 9785]
- Interpersonal/व्यक्तिगत [Option ID = 9786]
- Inceptive/प्रारंभिक [Option ID = 9787]
- Individual/व्यक्तिगत [Option ID = 9788]

Correct Answer :-
• Institutional/संस्थानिक [Option ID = 9785]

13) A general code of conduct circulated among the employees of an institution is an example of:

किसी संस्थान में वितरित कोड ऑफ कंडक्ट एक संस्थानिक संकेतिका है।

[Question ID = 2448][Question Description = 52_q5Nz_PG_GP24_Q18]

- Downward communication/अधःसंचार [Option ID = 9789]
- Lateral communication/पार्श्व संचार [Option ID = 9790]
- Horizontal communication/समान स्तर का संचार [Option ID = 9791]
- Upward communication/अधोसंचार [Option ID = 9792]

Correct Answer :-
• Downward communication/अधःसंचार [Option ID = 9789]

14) What is a blog?

ब्लॉग क्या है ?

[Question ID = 2449][Question Description = 52_q5Nz_PG_GP24_Q19]

- Internet/रेडिओ [Option ID = 9793]
- Search engine/सर्च इंजन [Option ID = 9794]
- Personal website in the form of a Journal/व्यक्तिगत वेबसाइट के रूप में [Option ID = 9795]
- Online journal/literature site [Option ID = 9796]

Correct Answer :-
• Internet/रेडिओ [Option ID = 9793]

15) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R

Assertion A: Teachers should accept students as they are and with whatever cognitive level they have.

Reason R: Moralizing, being judgemental, exposing ignorance are barriers to successful communication.

In light of the above statements, choose the correct answer from the options given below

सही विकल्प चुनें।

अभिप्राय (A) : शिक्षकों को छात्रों को वैसे ही स्वीकारना चाहिए जैसा वे हैं।

संकेत (R) : धार्मिक, निर्णायक, अज्ञान को प्रकट करना संचार में बाधा है।

उपरोक्त कथनों के आधार पर निम्नलिखित विकल्पों में से सही उत्तर चुनें।

[Question ID = 2450][Question Description = 52_q5Nz_PG_GP24_Q20]

- Both A and R are true and R is the correct explanation of A/दोनों सत्य हैं और (R) सही व्याख्या है। [Option ID = 9797]
- Both A and R are true but R is NOT the correct explanation of A/दोनों सत्य हैं और (R) सही व्याख्या नहीं है। [Option ID = 9798]
- A is true but R is false/A सत्य है और (R) असत्य है। [Option ID = 9799]
- A is false but R is true/A असत्य है और (R) सत्य है। [Option ID = 9800]

- A, B and C only/ B and A, B and C [Option ID = 9893]
- C and D only/ B and C, D [Option ID = 9894]
- C, D and E only/ B and C, D, E [Option ID = 9895]
- A, C and D only/ B and A, C, D [Option ID = 9896]

Correct Answer :-
● A, B and C only/ B and A, B and C [Option ID = 9893]

40) Match List I with List II

List I	List II
A. Taitali	i. Taitalk teachings
B. Ujjain	ii. Dvaita school of thought
C. Vikramshila	iii. Medicine
D. MaruyakhetalV	iv. Astronomy

Choose the correct answer from the options given below:

उत्तर -1 को उत्तर -II में उचित मिले :

उत्तर -I	उत्तर -II
A. तपल्लि	i. तैतल्लि तल्लि
B. उजलि	ii. द्वल्लित तल्लि
C. विकरशुल	iii. दल्लित
D. मरुतल्लि	iv. अरुतल्लि

Which one of the following is the correct answer :-

- A, B and C only/ B and A, B and C [Option ID = 9893]
- A, B and C only/ B and A, B and C [Option ID = 9893]

Correct Answer :-
● A, B and C only/ B and A, B and C [Option ID = 9893]

Topic:- GP_26NOV_SHZ_C

1) Read the passage carefully and answer the questions that follows

Assessment is central to almost all forms of education around the world, and in recent years, a wider variety of assessment has tended to be used. One such form of this change is the use of peer and self-assessment. Self-assessment can be defined as 'the ability to critically assess one's own work' (Brew, 1999) and peer assessment as 'making judgments about, or commenting upon, each other's work'. As with all assessment methods, both have their own strengths and weaknesses. It can be argued that peer and self-assessment with careful initiation and moderation are effective methods of assessment. However, this brief note will argue that in the high stakes environments of most educational settings, these methods are inappropriate, as the marking is unreliable.

Peer and self-assessment have become increasingly common as methods of assessment, particularly in further and higher education. They are used as methods to reduce the marking loads of teachers and it is claimed, to enhance group work and the critical thinking skills of students. It is also claimed that if marking criteria are discussed and agreed at the start, students' marking does not differ significantly from teachers. In studies where the assessment of different teachers is compared, and also in studies where teacher's and peer's and or self-assessments are compared, it has generally been found that, provided criteria are discussed and agreed in advance, marks tend to be similar. Thus, it could be argued that with the right initial training, there is no difference between work being marked by a teacher or a student.

Which one of the following is the correct answer :-

- A, B and C only/ B and A, B and C [Option ID = 9893]
- A, B and C only/ B and A, B and C [Option ID = 9893]

What is the focus of this text?

- Peer assessment/सह-मूल्यांकन [Option ID = 9901]
- Assessment and Education/मूल्यांकन और शिक्षा [Option ID = 9902]
- Assessment in general/मूल्यांकन के बारे में [Option ID = 9903]
- Peer and Self assessment/सह-मूल्यांकन और स्व-मूल्यांकन [Option ID = 9904]

Correct Answer :-
● Peer assessment/सह-मूल्यांकन [Option ID = 9901]

2) Study the given table carefully and answer the questions that follow

The following table has semester fees for four different courses in 5 different years

Years	BCA	MCA	MTech	MPhil
2016	25000	52000	60200	30000
2017	26500	53500	61400	32000
2018	27200	54200	62500	32400
2019	27600	55700	62900	33400
2020	28000	56800	63700	33900

Which one of the following is the correct answer :-

- A, B and C only/ B and A, B and C [Option ID = 9893]
- A, B and C only/ B and A, B and C [Option ID = 9893]

What benefits accrue from self-assessment and peer-assessment of students?

- Self-assessment and peer-assessment are innovative assessment practices/स्व-मूल्यांकन और सह-मूल्यांकन [Option ID = 9900]
- Assessment is central to education/मूल्यांकन शिक्षा के लिए [Option ID = 9901]
- Peer and self-assessments are inappropriate in high-stake examinations/सह-मूल्यांकन और स्व-मूल्यांकन उच्च-स्तरीय परीक्षाओं में [Option ID = 9902]
- Peer assessment is common in higher education/सह-मूल्यांकन उच्च शिक्षा में [Option ID = 9903]

Correct Answer :-
● Ability to criticise other's work/अन्य के कामों को आलोचना करने में [Option ID = 9905]

3) Study the given table carefully and answer the questions that follow

The following table has semester fees for four different courses in 5 different years

Years	BCA	MCA	MTech	MPhil
2016	25000	52000	60200	30000
2017	26500	53500	61400	32000
2018	27200	54200	62500	32400
2019	27600	55700	62900	33400
2020	28000	56800	63700	33900

Which one of the following is the correct answer :-

- A, B and C only/ B and A, B and C [Option ID = 9893]
- A, B and C only/ B and A, B and C [Option ID = 9893]

What argument the author desires to make?

- Self-assessment and peer-assessment are innovative assessment practices/स्व-मूल्यांकन और सह-मूल्यांकन [Option ID = 9900]
- Assessment is central to education/मूल्यांकन शिक्षा के लिए [Option ID = 9901]
- Peer and self-assessments are inappropriate in high-stake examinations/सह-मूल्यांकन और स्व-मूल्यांकन उच्च-स्तरीय परीक्षाओं में [Option ID = 9911]
- Peer assessment is common in higher education/सह-मूल्यांकन उच्च शिक्षा में [Option ID = 9912]

Correct Answer :-
● Self-assessment and peer-assessment are innovative assessment practices/स्व-मूल्यांकन और सह-मूल्यांकन [Option ID = 9900]

4) Read the passage carefully and answer the questions that follows

Assessment is central to almost all forms of education around the world, and in recent years, a wider variety of assessment has tended to be used. One such form of this change is the use of peer and self-assessment. Self-assessment can be defined as 'the ability to critically assess one's own work' (Brew, 1999) and peer assessment as 'making judgments about, or commenting upon, each other's work'. As with all assessment methods, both have their own strengths and weaknesses. It can be argued that peer and self-assessment with careful initiation and moderation are effective methods of assessment. However, this brief note will argue that in the high stakes environments of most educational settings, these methods are inappropriate, as the marking is unreliable.

Peer and self-assessment have become increasingly common as methods of assessment, particularly in further and higher education. They are used as methods to reduce the marking loads of teachers and it is claimed, to enhance group work and the critical thinking skills of students. It is also claimed that if marking criteria are discussed and agreed at the start, students' marking does not differ significantly from teachers. In studies where the assessment of different teachers is compared, and also in studies where teacher's and peer's and or self-assessments are compared, it has generally been found that, provided criteria are discussed and agreed in advance, marks tend to be similar. Thus, it could be argued that with the right initial training, there is no difference between work being marked by a teacher or a student.

Which one of the following is the correct answer :-

- A, B and C only/ B and A, B and C [Option ID = 9893]
- A, B and C only/ B and A, B and C [Option ID = 9893]

Which one of the following captures the meaning of 'Assessment is central to almost all forms of education'?

- Assessment is pivotal to education in all forms/मूल्यांकन शिक्षा में महत्वपूर्ण है [Option ID = 9913]
- Assessment is education in all forms/मूल्यांकन शिक्षा है [Option ID = 9914]
- Assessment education is key to education in all forms/मूल्यांकन शिक्षा शिक्षा में महत्वपूर्ण है [Option ID = 9915]
- Assessment is peripheral to education in all forms/मूल्यांकन शिक्षा में महत्वपूर्ण नहीं है [Option ID = 9916]

Correct Answer :-
● Assessment is pivotal to education in all forms/मूल्यांकन शिक्षा में महत्वपूर्ण है [Option ID = 9913]

5) Read the passage carefully and answer the questions that follows

Assessment is central to almost all forms of education around the world, and in recent years, a wider variety of assessment has tended to be used. One such form of this change is the use of peer and self-assessment. Self-assessment can be defined as 'the ability to critically assess one's own work' (Brew, 1999) and peer assessment as 'making judgments about, or commenting upon, each other's work'. As with all assessment methods, both have their own strengths and weaknesses. It can be argued that peer and self-assessment with careful initiation and moderation are effective methods of assessment. However, this brief note will argue that in the high stakes environments of most educational settings, these methods are inappropriate, as the marking is unreliable.

Peer and self-assessment have become increasingly common as methods of assessment, particularly in further and higher education. They are used as methods to reduce the marking loads of teachers and it is claimed, to enhance group work and the critical thinking skills of students. It is also claimed that if marking criteria are discussed and agreed at the start, students' marking does not differ significantly from teachers. In studies where the assessment of different teachers is compared, and also in studies where teacher's and peer's and or self-assessments are compared, it has generally been found that, provided criteria are discussed and agreed in advance, marks tend to be similar. Thus, it could be argued that with the right initial training, there is no difference between work being marked by a teacher or a student.

Which one of the following is the correct answer :-

- A, B and C only/ B and A, B and C [Option ID = 9893]
- A, B and C only/ B and A, B and C [Option ID = 9893]

'Students' marking does not differ significantly from teachers', means:

'छात्रों' द्वारा की गई चिह्नकारी अंक शिक्षकों की चिह्नकारी अंकों से अलग नहीं है

- Assessment is pivotal to education in all forms/मूल्यांकन शिक्षा में महत्वपूर्ण है [Option ID = 9913]
- Marks that differ radically from teachers/ शिक्षकों से अलग रूप से अंक [Option ID = 9917]
- Marks do not differ perceptibly/ अंक अलग नहीं हैं [Option ID = 9918]
- Marks that are almost similar/ अंक लगभग समान हैं [Option ID = 9919]
- Marks may or may not differ/ अंक अलग हो सकते हैं [Option ID = 9920]

Correct Answer :-
● Marks that differ radically from teachers/ शिक्षकों से अलग रूप से अंक [Option ID = 9917]