

UGC NET PAPER 2 NOVEMBER 26, 2021 - SHIFT 2 COMPUTER SCIENCE AND APPLICATIONS QUESTION PAPER

Topic:- CS41_SHANN_MOV21A

1) Which of the statements given below is/are correct? It is always important and useful to include an alt attribute on tag in HTML because...

Choose the correct answer from the options given below:

- 1. A and B only (Option ID = 9211)
2. A and C only (Option ID = 9212)
3. C only (Option ID = 9213)
4. A, B and C (Option ID = 9214)

Correct Answer: A and B only (Option ID = 9211)

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. 1 if n is odd, otherwise 0 (Option ID = 9215)
2. 1 if n is a power of 2, otherwise 0 (Option ID = 9216)
3. 1 if the binary representation of n has an odd number of 1's, otherwise 0 (Option ID = 9217)
4. 1 if the binary representation of n has an even number of 1's, otherwise 0 (Option ID = 9218)

Correct Answer: 1 if n is odd, otherwise 0 (Option ID = 9215)

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; }

- 1. -2-2-1-13 (Option ID = 9219)
2. -2-2-1-13 (Option ID = 9220)
3. -1-4-2-4-0 (Option ID = 9221)
4. -2-2-1-13 (Option ID = 9222)

Correct Answer: -2-2-1-13 (Option ID = 9219)

4) Match L1 with L2

Table with 2 columns: L1 (JSP, JWS, JSP, JWS) and L2 (Runtime support for running Java programs, The method provided by the Java development kit and runtime support for calling remote methods, The compiler and class libraries to develop Java applications, The method provided by the Java development kit and runtime support for calling remote methods)

Choose the correct answer from the options given below:

- 1. A - II, B - III, C - IV, D - I (Option ID = 9223)
2. A - II, B - IV, C - III, D - I (Option ID = 9224)
3. A - I, B - III, C - IV, D - II (Option ID = 9225)
4. A - II, B - III, C - IV, D - I (Option ID = 9226)

Correct Answer: A - II, B - III, C - IV, D - I (Option ID = 9223)

5) Match L1 with L2

Table with 2 columns: L1 (Imperative, Object-oriented, Logic, Functional) and L2 (Character-based, Declarative, clause representation, theorem proving, Side-effect free, declarative, expression evaluation, Imperative, abstract data type, Command-based, procedural)

Choose the correct answer from the options given below:

- 1. A - II, B - III, C - I, D - IV (Option ID = 9227)
2. A - IV, B - III, C - II, D - I (Option ID = 9228)
3. A - IV, B - II, C - II, D - I (Option ID = 9229)
4. A - II, B - III, C - I, D - IV (Option ID = 9230)

Correct Answer: A - IV, B - III, C - I, D - I (Option ID = 9227)

6) Suppose you have eight 'black and white' images taken with a 1-respelled camera and one 'color' image taken by an 8-respelled camera. How much hard disk space is total do you need to store these images on your computer? (Question ID = 2325) (Question Description = S1_Q514_PC_CS4_Q6)

- 1. 1 GB (Option ID = 9231)
2. 4 GB (Option ID = 9232)
3. 2 GB (Option ID = 9233)
4. 3 GB (Option ID = 9234)

Correct Answer: 4 GB (Option ID = 9232)

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...

- 1. It avoids round-off operations.
2. It is incremental.
3. It uses only integer arithmetic.
4. All straight lines can be displayed as straight (exact).

Choose the correct answer from the options given below:

- 1. A and B only (Option ID = 9235)
2. A and C only (Option ID = 9236)
3. A, B, C and D (Option ID = 9237)
4. A, B, and C only (Option ID = 9238)

Correct Answer: A and B only (Option ID = 9235)

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, (3, 1)^T, (-2, -1)^T and (3, -1)^T?

- 1. M = [1 1 0; 0 1 0; 0 0 1] (Option ID = 9239)
2. M = [1 0 0; 1 1 0; 0 0 1] (Option ID = 9240)
3. M = [1 1 1; 0 1 0; 0 0 1] (Option ID = 9241)
4. M = [1 1 0; 1 1 0; 0 0 1] (Option ID = 9242)

Correct Answer: M = [1 1 0; 0 1 0; 0 0 1] (Option ID = 9239)

9) Suppose a Bézier 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?

- 1. Bézier curve P(t) has degree 3.
2. P'(1/2) = (0, 3).
3. Bézier curve P(t) may extend outside the convex hull of its control points.

Choose the correct answer from the options given below:

- 1. A and B only (Option ID = 9243)
2. A and C only (Option ID = 9244)
3. B and C only (Option ID = 9245)
4. A, B, and C (Option ID = 9246)

Correct Answer: A and B only (Option ID = 9243)

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:

- 1. Both Statement I and Statement II are true. (Option ID = 9247)
2. Both Statement I and Statement II are false. (Option ID = 9248)
3. Statement I is true but Statement II is false. (Option ID = 9249)
4. Statement I is false but Statement II is true. (Option ID = 9250)

Correct Answer: Both Statement I and Statement II are true. (Option ID = 9247)

11) In software testing, beta testing is the testing performed by...

- 1. potential customers at the developer's location (Option ID = 9251)
2. potential customers at their own locations (Option ID = 9252)
3. product developers at the customer's location (Option ID = 9253)
4. product developers at their own locations (Option ID = 9254)

Correct Answer: potential customers at the developer's location (Option ID = 9251)

12) The X components in MVC are responsible for: (Question ID = 2342) (Question Description = S1_Q515_PC_CS4_Q12)

- 1. User Interface. (Option ID = 9255)
2. Security of the system. (Option ID = 9256)
3. Retrieval logic and data objects. (Option ID = 9257)
4. Transferring between user interface components and operations of the database. (Option ID = 9258)

Correct Answer: User Interface. (Option ID = 9255)

13) In software engineering, what kind of installation do formal methods predominantly use? (Question ID = 2343) (Question Description = S1_Q516_PC_CS4_Q13)

- 1. formal (Option ID = 9259)

Correct Answer: formal (Option ID = 9259)

- 4. Management (Paper ID = 9296)
- 5. Mathematics (Paper ID = 9297)
- 6. Computer Aptitude (Paper ID = 9298)

Correct Answer :
 • A and B only (Option ID = 9296)

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 = S1_q5Hz_PG_CMS_Q14)

1. correct (Option ID = 9292)
2. consistent (Option ID = 9294)
3. unambiguous (Option ID = 9293)
4. variable (Option ID = 9295)

Correct Answer :
 • correct (Option ID = 9292)

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 = S1_q5Hz_PG_CMS_Q15)

1. -9 Seconds (Option ID = 9297)
2. -10 Seconds (Option ID = 9298)
3. -11 Seconds (Option ID = 9299)
4. -12 Seconds (Option ID = 9300)

Correct Answer :
 • 9 Seconds (Option ID = 9297)

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

- A. Data 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 = S1_q5Hz_PG_CMS_Q16)

- A. and B only (Option ID = 9301)
- B. and C only (Option ID = 9302)
- C. and D only (Option ID = 9303)
- D. and A only (Option ID = 9304)

Correct Answer :
 • A and B only (Option ID = 9301)

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 commitments are irrevocable
C. Component-based Software Engineering	III. Explicit recognition of RST
D. Spiral Development	IV. Irrevocable partitioning of the project into stages

Choose the correct answer from the options given below:

(Question ID = 2347) (Question Description = S1_q5Hz_PG_CMS_Q17)

1. A - I, B - II, C - III, D - IV (Option ID = 9305)
2. A - I, B - III, C - IV, D - II (Option ID = 9306)
3. A - II, B - III, C - I, D - IV (Option ID = 9307)
4. A - IV, B - I, C - II, D - III (Option ID = 9308)

Correct Answer :
 • A - I, B - II, C - III, D - IV (Option ID = 9305)

18) Identify the correct order of the following five levels of Capability Maturity Model (from lower to higher) to measure the maturity of an organization'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 = S1_q5Hz_PG_CMS_Q18)

- A. C, A, E, D, B (Option ID = 9309)
- B. C, E, A, D, B (Option ID = 9310)
- C. C, D, E, A (Option ID = 9311)
- D. C, E, A, D, B (Option ID = 9312)

Correct Answer :
 • C, A, E, D, B (Option ID = 9309)

19) Given below are two statements.

Statement I: Classroom 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 focusing 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 = S1_q5Hz_PG_CMS_Q19)

1. Both Statement I and Statement II are true (Option ID = 9313)
2. Both Statement I and Statement II are false (Option ID = 9314)
3. Statement I is true but Statement II is false (Option ID = 9315)
4. Statement I is false but Statement II is true (Option ID = 9316)

Correct Answer :
 • Both Statement I and Statement II are true (Option ID = 9313)

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

Assertion A : Software developers don't 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 = S1_q5Hz_PG_CMS_Q20)

1. Both A and R are true and R is the correct explanation of A (Option ID = 9317)
2. Both A and R are true but R is NOT the correct explanation of A (Option ID = 9318)
3. A is true but R is false (Option ID = 9319)
4. A is false but R is true (Option ID = 9320)

Correct Answer :
 • Both A and R are true and R is the correct explanation of A (Option ID = 9317)

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 = S1_q5Hz_PG_CMS_Q21)

- A only (Option ID = 9401)
- A and B only (Option ID = 9402)
- B and C only (Option ID = 9403)
- A and C only (Option ID = 9404)

Correct Answer :
 • A only (Option ID = 9401)

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

Statement I: $\lfloor 2x \rfloor = \lfloor 2 \rfloor x + \lfloor 1 \rfloor \lfloor 2x \rfloor$ 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 = S1_q5Hz_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 = S1_q5Hz_PG_CMS_Q23)

1. 625 (Option ID = 9409)
2. 624 (Option ID = 9410)
3. 249 (Option ID = 9411)
4. 248 (Option ID = 9412)

Correct Answer :
 • 624 (Option ID = 9410)

24) A company stores products in a warehouse. Storage bins in this warehouse are specified by their aisle, location in the aisle, and shelf. There are 50 aisles, 83 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 = S1_q5Hz_PG_CMS_Q24)

1. 231 (Option ID = 9413)
2. 424 (Option ID = 9414)
3. 423 (Option ID = 9415)
4. 232 (Option ID = 9416)

Correct Answer :
 • 231 (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 = S1_q5Hz_PG_CMS_Q25)

1. 21 (Option ID = 9417)
2. 24 (Option ID = 9418)
3. 21 (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 = S1_q5Hz_PG_CMS_Q26)

1. 2 (Option ID = 9421)
3. 3 (Option ID = 9422)
1. 4 (Option ID = 9423)
- 5 (Option ID = 9424)

Correct Answer :
 • 3 (Option ID = 9422)

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



Choose the correct answer from the options given below:

(Question ID = 2357) (Question Description = S1_q5Hz_PG_CMS_Q27)

- A and B only (Option ID = 9425)
- B and C only (Option ID = 9426)
- A only (Option ID = 9427)
- Both (Option ID = 9428)

Correct Answer :
 • A and B only (Option ID = 9425)

28) Match List I with List II

Q.No	Name
1.	A, B, C, D, E
2.	A, B, C, D, E
3.	A, B, C, D, E
4.	A, B, C, D, E

Choose the correct answer from the options given below:
 [Question ID = 2308] [Question Description = S1_q3H2_PG_CWS_Q28]
 1. A, B, C, D, E (Option ID = 9428)
 2. A, B, C, D, E (Option ID = 9428)
 3. A, B, C, D, E (Option ID = 9428)
 4. A, B, C, D, E (Option ID = 9428)

Correct Answer :-
 A, B, C, D, E (Option ID = 9428)

29) Let $(G, *)$ be a semigroup. Furthermore, for every a and b in X , if $a * b$, then $a * b^2$.
 Based on the defined semigroup, choose the correct equalities from the options given below:
 A. For every a in X , $a^2 * a$
 B. For every a, b in X , $a^2 * a * a$
 C. For every a, b, c in X , $a * b * c = a * c$

[Question ID = 2309] [Question Description = S1_q3H2_PG_CWS_Q29]
 1. A and B only (Option ID = 9429)
 2. A and C only (Option ID = 9429)
 3. B and C only (Option ID = 9429)
 4. A, B and C (Option ID = 9429)

Correct Answer :-
 A and B only (Option ID = 9429)

30) Consider the following linear optimization problem:
 Maximize $Z = 6x + 5y$
 Subject to $2x - 3y \leq 5$
 $x + y \leq 4$
 $4x + y \leq 15$
 and $x \geq 0, y \geq 0$.

The optimal solution of the problem is:
 [Question ID = 2310] [Question Description = S1_q3H2_PG_CWS_Q30]
 1. 13 (Option ID = 9430)
 2. 23 (Option ID = 9430)
 3. 37 (Option ID = 9430)
 4. 47 (Option ID = 9430)

Correct Answer :-
 13 (Option ID = 9430)

31) Which of the following languages are not regular?
 A. $L = \{0^k 1^n \mid n > k, k \geq 0\}$
 B. $L = \{0^k 1^n \mid n > 0, k \geq 0\}$
 C. $L = \{0^k \mid k \geq 0\}$

Choose the correct answer from the options given below:
 [Question ID = 2311] [Question Description = S1_q3H2_PG_CWS_Q31]
 1. None (Option ID = 9431)
 2. A and C only (Option ID = 9431)
 3. B and C only (Option ID = 9431)
 4. A, B and C (Option ID = 9431)

Correct Answer :-
 A and B only (Option ID = 9431)

32) Any string of terminals that can be generated by the following context free grammar (where S is start nonterminal symbol)
 $S \rightarrow XY$
 $X \rightarrow 0X \mid 1X \mid 0$
 $Y \rightarrow 1Y \mid 1 \mid 0$

[Question ID = 2312] [Question Description = S1_q3H2_PG_CWS_Q32]
 1. Not at least one (Option ID = 9432)
 2. Not at least one (Option ID = 9432)
 3. Not at least one (Option ID = 9432)
 4. Not at least one (Option ID = 9432)

Correct Answer :-
 Not at least one (Option ID = 9432)

33) Let
 $L_1 = \{0^m 1^n \mid m \geq 1, n \geq 1\}$
 $L_2 = \{0^m 1^n \mid m \geq 1, n \geq 1\}$
 $L_3 = \{0^m 1^n \mid m \geq 1\}$

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

Choose the correct answer from the options given below:
 [Question ID = 2313] [Question Description = S1_q3H2_PG_CWS_Q33]
 1. A and B only (Option ID = 9433)
 2. A and C only (Option ID = 9433)
 3. A and D only (Option ID = 9433)
 4. A only (Option ID = 9433)

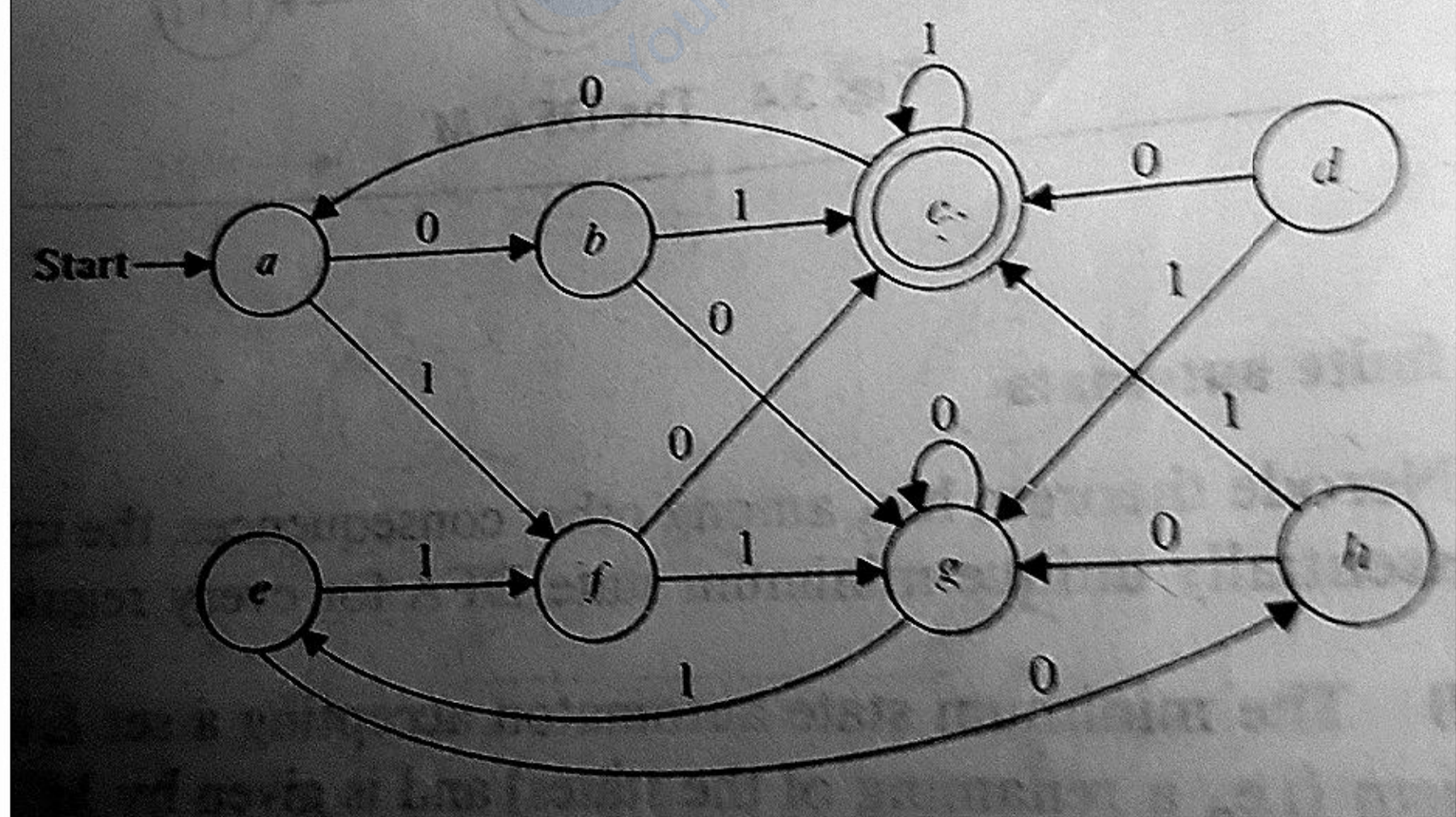
Correct Answer :-
 A and B only (Option ID = 9433)

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 = 2314] [Question Description = S1_q3H2_PG_CWS_Q34]
 1. Both Statement I and Statement II are true (Option ID = 9434)
 2. Both Statement I and Statement II are false (Option ID = 9434)
 3. Statement I is true but Statement II is false (Option ID = 9434)
 4. Statement I is false but Statement II is true (Option ID = 9434)

Correct Answer :-
 Both Statement I and Statement II are true (Option ID = 9434)

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

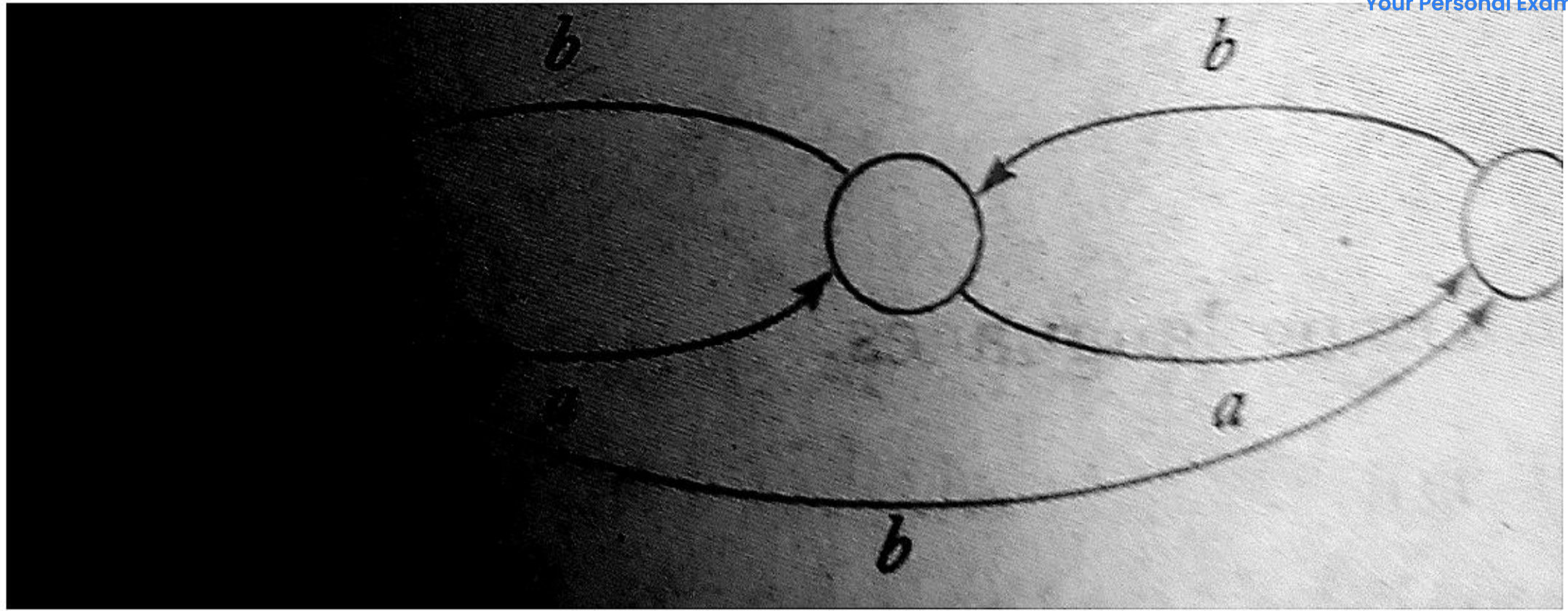


[Question ID = 2315] [Question Description = S1_q3H2_PG_CWS_Q35]
 1. 3 (Option ID = 9435)
 2. 4 (Option ID = 9435)
 3. 5 (Option ID = 9435)
 4. 6 (Option ID = 9435)

Correct Answer :-
 3 (Option ID = 9435)

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





32) Which language is accepted by the pushdown automaton
 $M = (Q_0, \Sigma, \Gamma, \delta, q_0, Z_0, F, \epsilon)$
 with
 $\delta(q_0, a, \epsilon) = \{(q_0, a\epsilon)\}$; $\delta(q_0, b, \epsilon) = \{(q_0, b\epsilon)\}$
 $\delta(q_0, a, b) = \{(q_0, a\epsilon)\}$; $\delta(q_0, b, a) = \{(q_0, b\epsilon)\}$
 $\delta(q_0, a, a) = \{(q_0, a\epsilon)\}$; $\delta(q_0, b, b) = \{(q_0, b\epsilon)\}$
 $\delta(q_0, a, b) = \{(q_0, \epsilon)\}$; $\delta(q_0, b, a) = \{(q_0, \epsilon)\}$
 $\delta(q_0, a, \epsilon) = \{(q_0, \epsilon)\}$; $\delta(q_0, b, \epsilon) = \{(q_0, \epsilon)\}$
 $\delta(q_0, \epsilon, \epsilon) = \{(q_0, \epsilon)\}$

33) Match List I with List II

List I	List II
Production Rules	Grammar
$A \rightarrow XY$	I. Greibach Normal Form
$C \rightarrow \epsilon$	
$V \rightarrow 1$	II. Chomsky Normal Form
$B \rightarrow AB$	
$A \rightarrow \epsilon A \mid 1A \mid 0$	III. S-grammar
$B \rightarrow \epsilon A$	
$D \rightarrow \epsilon abc$	
$M_2 \rightarrow BA$	
$M_1 \rightarrow Bacc$	
$EB \rightarrow Eb$	
$BE \rightarrow aab$	

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

35) The postfix form of the expression $(A + B) * (C * D + E) * F / G$ is _____

36) A double-ended queue (Deque) supports adding and removing items from both ends of the queue. The operations supported by Deque are AddFront (adding item to front of the queue), AddRear (adding item to rear of the queue), RemoveFront (removing item from front of the queue), and RemoveRear (removing item from 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?

37) Two balanced binary trees are given with m and n elements, respectively. They can be merged into a balanced binary search tree in _____ time.

38) 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?

39) Consider the following graph.

40) A tree can be used to store a balanced binary search tree. (Option ID = 940)

41) A balanced binary search tree can be used for a heap. (Option ID = 940)

42) Both balanced binary search tree and heap can be used. (Option ID = 940)

43) Neither balanced binary search tree nor heap can be used. (Option ID = 940)



Identify the spanning tree.

- I. a b e g h f
- II. a b f c 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?

- 1. I, II, and IV only (Option ID = 9472)
- 2. I and IV only (Option ID = 9468)
- 3. II, III, and IV only (Option ID = 9463)
- 4. I, II, and IV only (Option ID = 9506)

Correct Answer :
+ 1, II, and IV only (Option ID = 9472)

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 option given below.

- 1. Both Statement I and Statement II are true. (Option ID = 9521)
- 2. Both Statement I and Statement II are false. (Option ID = 9523)
- 3. Statement I is true but Statement II is false. (Option ID = 9520)
- 4. Statement I is false but Statement II is true. (Option ID = 9522)

Correct Answer :
+ Both Statement I and Statement II are true. (Option ID = 9521)

47) Which of the given options provides the increasing order of asymptotic complexity of functions f1, f2, f3 and f4?

- A. f3(n) < f2 < f4 < f1
- B. f2(n) < n^2 < f4 < f1
- C. f3(n) < n log n < f4 < f1
- D. f4(n) < n^2 < f1 < f3

Choose the correct answer from the options given below.

- 1. C, B, D, A (Option ID = 9505)
- 2. C, B, A, D (Option ID = 9504)
- 3. B, C, A, D (Option ID = 9502)
- 4. B, C, D, A (Option ID = 9506)

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 = 1378) (Question Description = S1_q5H2_PG_CWS_Q48)

- 1. 63 (Option ID = 9526)
- 2. 64 (Option ID = 9525)
- 3. 62 (Option ID = 9511)
- 4. 68 (Option ID = 9512)

Correct Answer :
+ 63 (Option ID = 9526)

49) A hash function h defined as $h(\text{key}) = \text{key} \bmod 7$, with linear probing, is used to insert the keys 44, 45, 79, 55, 51, 18, 43 into a table indexed from 0 to 6. What will be the location of key 18?

- 1. 2 (Option ID = 9513)
- 2. 4 (Option ID = 9514)
- 3. 5 (Option ID = 9515)
- 4. 6 (Option ID = 9516)

Correct Answer :
+ 2 (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.

Key I	Key II
Standard graph algorithms	Time complexity
A. Bellman-Ford algorithm	1. $O(m^2 \log n)$
B. Kruskal's algorithm	2. $O(n^3)$
C. Floyd-Warshall algorithm	3. $O(n^2 m)$
D. Topological sorting	4. $O(n+m)$

Choose the correct answer from the options given below.

- 1. A - 1, B - 2, C - 3, D - 4 (Option ID = 9517)
- 2. A - 1, B - 3, C - 4, D - 2 (Option ID = 9518)
- 3. A - 1, B - 4, C - 2, D - 3 (Option ID = 9519)
- 4. A - 1, B - 3, C - 4, D - 2 (Option ID = 9520)

Correct Answer :
+ A - 1, B - 3, C - 4, D - 2 (Option ID = 9517)

51) Which agent deals with the happy and unhappy state? (Question ID = 1381) (Question Description = S1_q5H2_PG_CWS_Q51)

- 1. Utility based agent (Option ID = 9523)
- 2. Model based agent (Option ID = 9522)
- 3. Goal based agent (Option ID = 9521)
- 4. Learning Agent (Option ID = 9524)

Correct Answer :
+ Utility based agent (Option ID = 9523)

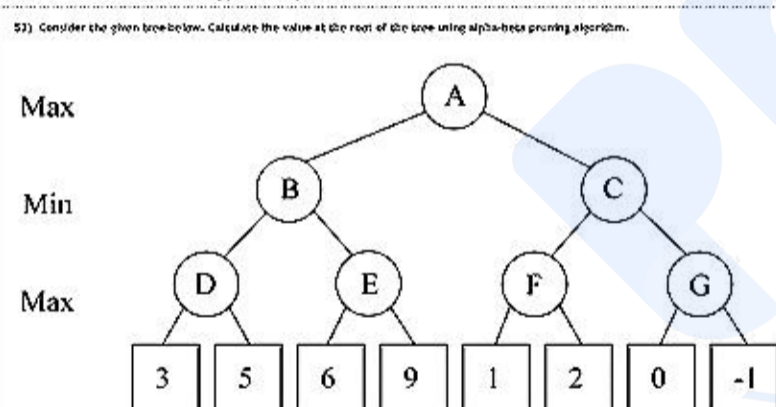
52) Given below are two statements
Statement I: Breadth-First Search is optimal when all the step costs are equal whereas uniform-cost search is optimal with any step cost.
Statement II: When all the step costs are same uniform-cost search expands more nodes at depth d than the Breadth-First Search.

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

- 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 = 9523)
- 4. Statement I is false but Statement II is true. (Option ID = 9524)

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 = 1383) (Question Description = S1_q5H2_PG_CWS_Q53)

- 1. 3 (Option ID = 9528)
- 2. 5 (Option ID = 9529)
- 3. 6 (Option ID = 9527)
- 4. 9 (Option ID = 9526)

Correct Answer :
+ 3 (Option ID = 9528)

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. $h(p) = 0$ is an admissible heuristic for the 8-puzzle.

(Question ID = 1384) (Question Description = S1_q5H2_PG_CWS_Q54)

- 1. A only (Option ID = 9531)
- 2. A and D only (Option ID = 9534)
- 3. C only (Option ID = 9533)
- 4. C and D only (Option ID = 9532)

Correct Answer :
+ A only (Option ID = 9531)

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 exactly when the predicate Country(x) represents that x is a country and Border(x, y) represents that the countries x and y share the border?

(Question ID = 1385) (Question Description = S1_q5H2_PG_CWS_Q55)

- 1. $\exists x (\text{Country}(x) \wedge \text{Border}(x, \text{India}) \wedge \text{Border}(x, \text{Pakistan}))$ (Option ID = 9535)
- 2. $\exists x (\text{Country}(x) \wedge (\text{Border}(x, \text{India}) \wedge \text{Border}(x, \text{Pakistan})))$ (Option ID = 9538)
- 3. $\exists x (\text{Country}(x) \wedge (\text{Border}(x, \text{India}) \vee \text{Border}(x, \text{Pakistan})))$ (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 = 9535)

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		toothache	¬toothache
cavity	0.108	0.052	cavity	0.072	0.020
¬cavity	0.014	0.064	¬cavity	0.144	0.576

The marginal probability of cavity P(cavity) is _____ (Question ID = 2185) (Question Description = S1_q5H2_PG_CWS_Q56)

- 1. 0.200 (Option ID = 9541)
- 2. 0.214 (Option ID = 9542)
- 3. 0.120 (Option ID = 9545)
- 4. 0.020 (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 = 2187) (Question Description = S1_q5H2_PG_CWS_Q57)

- 1. 0.400 (Option ID = 9546)
- 2. 0.600 (Option ID = 9548)
- 3. 0.200 (Option ID = 9549)
- 4. 0.214 (Option ID = 9540)

Correct Answer :
+ 0.400 (Option ID = 9546)

58) The probability of a toothache, given evidence of a cavity, P(toothache | cavity) is _____ (Question ID = 2188) (Question Description = S1_q5H2_PG_CWS_Q58)

- 1. 0.400 (Option ID = 9546)
- 2. 0.600 (Option ID = 9548)
- 3. 0.020 (Option ID = 9541)
- 4. 0.214 (Option ID = 9540)

Correct Answer :
+ 0.400 (Option ID = 9546)

59) P(¬cavity | V toothache) is _____ (Question ID = 2189) (Question Description = S1_q5H2_PG_CWS_Q59)

- 1. 0.500 (Option ID = 9543)
- 2. 0.120 (Option ID = 9545)

Correct Answer :-
0.200 (Option D - 9551)

60) The probability for Conry, given that either Zorniche or Etch is true, P(Conry | both A or B) is:
1. 0.500 (Option D - 9551)
2. 0.334 (Option D - 9551)
3. 0.500 (Option D - 9551)
4. 0.461 (Option D - 9548)

Correct Answer :-
0.461 (Option D - 9548)

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

1. Log (Option D - 9561)
2. File manager (Option D - 9561)
3. File manager (Option D - 9561)
4. Transaction processing system (Option D - 9564)

Correct Answer :-
Log (Option D - 9561)

62) Consider following two statements

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

1. Statement I is TRUE but Statement II is FALSE (Option D - 9543)
2. Statement I is FALSE but Statement II is TRUE (Option D - 9543)
3. Both Statement I and Statement II are FALSE (Option D - 9543)
4. Both Statement I and Statement II are TRUE (Option D - 9543)

Correct Answer :-
Statement I is TRUE but Statement II is FALSE (Option D - 9543)

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.

1. B/R
2. B + R (Option D - 9571)
3. B (Option D - 9571)
4. 3B/R (Option D - 9571)

Correct Answer :-
B/R (Option D - 9571)

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. Assume 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 courseName.

A. SELECT CourseName, count(*) total from STUDENT natural join COURSE group by CourseName;
B. SELECT CourseName, count(*) total from STUDENT S, COURSE C where S.CourseNo=C.CourseNo group by CourseName;
C. SELECT CourseName, count(*) total from COURSE C where CourseNo in (SELECT CourseNo from STUDENT);

1. A and B only (Option D - 9572)
2. C only (Option D - 9574)
3. A only (Option D - 9573)
4. B only (Option D - 9573)

Correct Answer :-
A and B only (Option D - 9572)

65) 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. Assume CourseName of COURSE takes unique values only. The number of records in COURSE and STUDENT tables are J and K respectively. Following relational algebra query is executed: R=STUDENT X COURSE

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

Table with 2 columns: I, II. I: A. Degree of table R, B. Cardinality of table R, C. Primary key of relation STUDENT, D. Foreign key of relation COURSE to COURSENo. II: 1. J, 2. K, 3. J, 4. K.

1. A - 1, B - 1, C - 2, D - 1 (Option D - 9577)
2. A - 1, B - 1, C - 1, D - 1 (Option D - 9577)
3. A - 1, B - 1, C - 1, D - 1 (Option D - 9577)
4. A - 1, B - 1, C - 1, D - 1 (Option D - 9577)

Correct Answer :-
A - 1, B - 1, C - 1, D - 1 (Option D - 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) =

1. (57, 55) (Option D - 9581)
2. (57, 55) (Option D - 9581)
3. (60, 58) (Option D - 9582)
4. (54, 51) (Option D - 9584)

Correct Answer :-
(57, 55) (Option D - 9581)

67) Given a relation scheme R(A, B, C, D) with functional dependencies set F={A->B, C->D}. All attributes take single and atomic values only.

A. Relation R is in First Normal Form
B. Relation R is in Second Normal Form
C. Primary key of R is AC

1. C only (Option D - 9583)
2. B and C only (Option D - 9583)
3. A and C only (Option D - 9583)
4. B only (Option D - 9583)

Correct Answer :-
C only (Option D - 9583)

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 supplier or both. For each part, partnumber, partname is maintained. Attribute batchnumber 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 constraints concepts in ERD for the given problem.

1. Total specialization and overlapping constraints (Option D - 9584)
2. Disjoint constraints only (Option D - 9583)
3. Partial specialization (Option D - 9581)
4. Partial participation and disjoint constraints (Option D - 9582)

Correct Answer :-
Total specialization and overlapping constraints (Option D - 9584)

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

A. FAILED
B. TERMINATED
C. PARTIALLY COMMITTED
D. COMMITTED
E. ACTIVE

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

1. A only (Option D - 9585)
2. B and C only (Option D - 9584)
3. C only (Option D - 9585)
4. D only (Option D - 9586)

Correct Answer :-
D only (Option D - 9586)

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

1. DDL (Option D - 9587)
2. DML (Option D - 9587)
3. DCL (Option D - 9587)
4. DDL (Option D - 9587)

Correct Answer :-
DDL (Option D - 9587)

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?

1. p + q/100 (Option D - 9601)
2. p + q (Option D - 9602)
3. p + q/100 (Option D - 9602)
4. p + q (Option D - 9604)

Correct Answer :-
p + q/100 (Option D - 9601)

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

A. Contiguous
B. Indexed
C. 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:

1. A only (Option D - 9605)
2. B and C only (Option D - 9604)
3. A and B only (Option D - 9605)
4. C only (Option D - 9605)

Correct Answer :-
A and B only (Option D - 9605)

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

A. Interrupt handler routine is not stored at a fixed address in the memory.
B. CPU hardware has a dedicated wire called the interrupt request line used for handling interrupts.
C. 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:

1. A is TRUE (Option D - 9607)
2. Both B and C are TRUE only (Option D - 9607)
3. Both A and B are TRUE only (Option D - 9607)
4. Both A, C are TRUE only (Option D - 9607)

Correct Answer :-
Both B and C are TRUE only (Option D - 9607)

CSAT 2019

Answer Key

Q. 74) Match List I with List II

List I	List II
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. call()	IV. Creates a child process

Choose the correct answer from the options given below:

- Question ID = 2404 | Question Description = S1_q5Hr_PG_CWS_Q74
- A - II, B - III, C - IV, D - I [Option ID = 9613]
 - A - IV, B - II, C - I, D - III [Option ID = 9614]
 - A - IV, B - I, C - II, D - III [Option ID = 9615]
 - A - IV, B - II, C - I, D - I [Option ID = 9616]

Correct Answer : A - II, B - III, C - IV, D - I [Option ID = 9613]

Q. 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 = S1_q5Hr_PG_CWS_Q75
- 5.5 [Option ID = 9617]
 - 3.65 [Option ID = 9618]
 - 4.65 [Option ID = 9619]
 - 6 [Option ID = 9620]

Correct Answer : 3.65 [Option ID = 9618]

Topic: CSAT_SH4AN_H07210

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 = S1_q5Hr_PG_CWS_Q76

- 12 [Option ID = 9621]
- 14 [Option ID = 9622]
- 22 [Option ID = 9623]
- 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 = S1_q5Hr_PG_CWS_Q77

- 2²⁹ [Option ID = 9625]
- 2²⁷ [Option ID = 9626]
- 2²⁸ [Option ID = 9627]
- 2³¹ [Option ID = 9628]

Correct Answer : 2²⁹ [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 = S1_q5Hr_PG_CWS_Q78

- 28 [Option ID = 9629]
- 24 [Option ID = 9630]
- 34 [Option ID = 9631]
- 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 = S1_q5Hr_PG_CWS_Q79

- 256 [Option ID = 9633]
- 258 [Option ID = 9634]
- 259 [Option ID = 9635]
- 128 [Option ID = 9636]

Correct Answer : 256 [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 = S1_q5Hr_PG_CWS_Q80

- 40 [Option ID = 9637]
- 38 [Option ID = 9638]
- 16 [Option ID = 9639]
- 32 [Option ID = 9640]

Correct Answer : 40 [Option ID = 9637]

Topic: CSAT_SH4AN_H07210

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 = S1_q5Hr_PG_CWS_Q81
- A - I, B - II, C - III, D - IV [Option ID = 9641]
 - A - II, B - I, C - IV, D - III [Option ID = 9642]
 - A - I, D - II, C - III, D - IV [Option ID = 9643]
 - A - IV, B - II, C - I, D - I [Option ID = 9644]

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

2) The Octal equivalent of hexadecimal (C1)16 is [Question ID = 2412] | Question Description = S1_q5Hr_PG_CWS_Q82

- (15A)8 [Option ID = 9645]
- (154)8 [Option ID = 9646]
- (153)8 [Option ID = 9647]
- (152)8 [Option ID = 9648]

Correct Answer : (15A)8 [Option ID = 9645]

3) A digital computer has a common bus system for 4 registers 16 bits each. How many multiplexers are required to implement common bus? What size of multiplexers is required? [Question ID = 2413] | Question Description = S1_q5Hr_PG_CWS_Q83

- 16, 16:1 [Option ID = 9649]
- 3, 16:1 [Option ID = 9650]
- 3, 3:1 [Option ID = 9651]
- 16, 16:1 [Option ID = 9652]

Correct Answer : 16, 16:1 [Option ID = 9649]

4) Which of the following is not an example of pseudo-instruction? [Question ID = 2414] | Question Description = S1_q5Hr_PG_CWS_Q84

- OPC [Option ID = 9653]
- BEC [Option ID = 9654]
- DD [Option ID = 9655]
- HLT [Option ID = 9656]

Correct Answer : OPC [Option ID = 9653]

5) The reverse Polish notation of the following infix expression $(A^2 * (B - C) * D + E) / (F * (G + H))$ is _____. [Question ID = 2415] | Question Description = S1_q5Hr_PG_CWS_Q85

- ABCD*^2)GHI+/ [Option ID = 9657]
- ABCD*^2)GHI+/ [Option ID = 9658]
- ABCD*^2)GHI+/ [Option ID = 9659]
- ABCD*^2)GHI+/ [Option ID = 9660]

Correct Answer : ABCD*^2)GHI+/ [Option ID = 9657]

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

- UD Module
- ID processor
- I/O Channel
- DMA

Choose the correct answer from the options given below:

- Question ID = 2416 | Question Description = S1_q5Hr_PG_CWS_Q86
- A, C, B, D [Option ID = 9661]
 - C, D, A, B [Option ID = 9662]
 - A, B, C, D [Option ID = 9663]
 - A, D, C, B [Option ID = 9664]

Correct Answer : A, C, B, D [Option ID = 9661]

7) The characteristics of the combinational circuits are:

- Output at any time is function of inputs at that time
- Contains memory elements
- Do not have feedback paths
- Clock is used to trigger the circuits to obtain output

Choose the correct answer from the options given below:

- Question ID = 2417 | Question Description = S1_q5Hr_PG_CWS_Q87
- A and B only [Option ID = 9665]
 - B and C only [Option ID = 9666]
 - A and C only [Option ID = 9667]
 - B and D only [Option ID = 9668]

Correct Answer : A and B only [Option ID = 9665]

8) The cache coherence problem can be solved

- by having multiprocessor memory
- allow only nonshared data to be stored in cache
- using a snoopy cache controller
- using memory interleaving

Choose the correct answer from the options given below:

- Question ID = 2418 | Question Description = S1_q5Hr_PG_CWS_Q88
- A and C only [Option ID = 9669]
 - B and C only [Option ID = 9670]
 - A and C only [Option ID = 9671]
 - B and D only [Option ID = 9672]

Correct Answer : A and C only [Option ID = 9669]

9) Given below are two statements

Statement I: In RISC machines memory access is limited to load and store instructions.

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_Q5Hz_PG_CWS_Q89]
- Both Statement I and Statement II are true [Option ID = 9627]
 - Both Statement I and Statement II are false [Option ID = 9628]
 - Statement I is true but Statement II is false [Option ID = 9629]
 - Statement I is false but Statement II is true [Option ID = 9630]

Correct Answer : Both Statement I and Statement II are true [Option ID = 9627]

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.
- CPI utilization is not affected by the introduction of interrupts.

- [Question ID = 2420][Question Description = S1_Q5Hz_PG_CWS_Q90]
- A [Option ID = 9627]
 - B [Option ID = 9628]
 - C [Option ID = 9629]
 - D [Option ID = 9630]

Correct Answer : A [Option ID = 9627]

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. Priority setting

Choose the correct answer from the options given below

- [Question ID = 2421][Question Description = S1_Q5Hz_PG_CWS_Q91]
- A - iv, B - ii, C - i, D - iii [Option ID = 9631]
 - A - iv, B - ii, C - i, D - iii [Option ID = 9632]
 - A - iii, B - ii, C - i, D - iv [Option ID = 9633]
 - A - iv, B - i, C - ii, D - iii [Option ID = 9634]

Correct Answer : A - iv, B - ii, C - i, D - iii [Option ID = 9631]

12) Given below are two statements

Statement I:

Telnet, Pop, Http are application layer protocol

Statement II:

The Indian 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_Q5Hz_PG_CWS_Q92]
- Both Statement I and Statement II are true [Option ID = 9635]
 - Both Statement I and Statement II are false [Option ID = 9636]
 - Statement I is true but Statement II is false [Option ID = 9637]
 - Statement I is false but Statement II is true [Option ID = 9638]

Correct Answer : Both Statement I and Statement II are true [Option ID = 9635]

13) Which of the following statement is false? [Question ID = 2423][Question Description = S1_Q5Hz_PG_CWS_Q93]

- Packet switching leads to better utilization of bandwidth/resources than circuit switching. [Option ID = 9639]
- Packet switching results in less variation in the delay than circuit switching. [Option ID = 9640]
- Packet switching is better suited for real time, interactive or streaming media than circuit switching. [Option ID = 9641]
- Packet switching can handle streaming audio circuit switching. [Option ID = 9642]

Correct Answer : Packet switching leads to better utilization of bandwidth/resources than circuit switching. [Option ID = 9639]

14) In Ethernet when Manchester coding is used, the bit rate is _____ [Question ID = 2424][Question Description = S1_Q5Hz_PG_CWS_Q94]

- Half the baud rate [Option ID = 9643]
- Twice the baud rate [Option ID = 9644]
- Three the baud rate [Option ID = 9645]
- Same as the baud rate [Option ID = 9646]

Correct Answer : Half the baud rate [Option ID = 9643]

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_Q5Hz_PG_CWS_Q95]

- 62 subnets and 262142 hosts [Option ID = 9647]
- 64 subnets and 1024 hosts [Option ID = 9648]
- 64 subnets and hosts 262142 [Option ID = 9649]
- 62 subnets and 1024 hosts [Option ID = 9650]

Correct Answer : 62 subnets and 262142 hosts [Option ID = 9647]

16) In electronic mail, which of the following protocol allows the transfer of multimedia? [Question ID = 2426][Question Description = S1_Q5Hz_PG_CWS_Q96]

- SMTP [Option ID = 9651]
- MIME [Option ID = 9652]
- POP3 [Option ID = 9653]
- HTTP [Option ID = 9654]

Correct Answer : MIME [Option ID = 9652]

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_Q5Hz_PG_CWS_Q97]
- Sender encrypts using receiver's public key [Option ID = 9655]
 - Sender encrypts using his own public key [Option ID = 9656]
 - Receiver decrypts using sender's public key [Option ID = 9657]
 - Receiver decrypts using his own public key [Option ID = 9658]

Correct Answer : Sender encrypts using receiver's public key [Option ID = 9655]

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_Q5Hz_PG_CWS_Q98]
- A and B only [Option ID = 9659]
 - C and D only [Option ID = 9660]
 - A and C only [Option ID = 9661]
 - B and D only [Option ID = 9662]

Correct Answer : B and D only [Option ID = 9660]

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 acknowledgment.
- Frame relay service provides detection of transmission errors.

Choose the correct answer from the options given below

- [Question ID = 2429][Question Description = S1_Q5Hz_PG_CWS_Q99]
- A and D only [Option ID = 9663]
 - B and D only [Option ID = 9664]
 - C and D only [Option ID = 9665]
 - A and C only [Option ID = 9666]

Correct Answer : A and D only [Option ID = 9663]

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_Q5Hz_PG_CWS_Q100]

- (x-1) is factor of G(x) [Option ID = 9667]
- (x+1) is factor of G(x) [Option ID = 9668]
- (x-1) is factor of G(x) [Option ID = 9669]
- (x+1) is factor of G(x) [Option ID = 9670]

Correct Answer : (x-1) is factor of G(x) [Option ID = 9667]

Topic: GP_26HDV_3H2_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	M.Tech	M.Phil
2016	2016	2100	6000	5000
2017	2250	2350	6400	5200
2018	2700	2400	6500	5600
2019	3100	2700	6700	5700
2020	2800	2600	6700	5900

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

Year	BCA	MCA
2016	2016	2100
2017	2250	2350
2018	2700	2400
2019	3100	2700
2020	2800	2600

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

1) 2700 [Option ID = 9721]

- 2700 [Option ID = 9721]
- 2700 [Option ID = 9722]
- 2700 [Option ID = 9723]
- 2700 [Option ID = 9724]

Correct Answer : 2700 [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	M.Tech	M.Phil
2016	2016	2100	6000	5000
2017	2250	2350	6400	5200
2018	2700	2400	6500	5600
2019	3100	2700	6700	5700
2020	2800	2600	6700	5900

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

Year	BCA	MCA
2016	2016	2100
2017	2250	2350
2018	2700	2400
2019	3100	2700
2020	2800	2600

2019	2760	55700	62900	33400
2020	2800	54600	63700	33900

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

Find the correct answer from the options given below:

[Question ID = 2432][Question Description = S2_q5H2_PG_6P24_Q03]

- 1. BCA
- 2. MCA
- 3. M.Tech
- 4. M.Phil

Correct Answer: 1. BCA

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	M.Phil
2016	31000	51000	60300	30000
2017	32500	51900	61400	30200
2018	33200	52000	62500	31600
2019	33600	53700	62900	31400
2020	34000	54600	63700	31900

Find the correct answer from the options given below:

[Question ID = 2433][Question Description = S2_q5H2_PG_6P24_Q03]

- 1. BCA
- 2. MCA
- 3. M.Tech
- 4. M.Phil

Correct Answer: 1. BCA

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	M.Phil
2016	31000	51000	60300	30000
2017	32500	51900	61400	30200
2018	33200	52000	62500	31600
2019	33600	53700	62900	31400
2020	34000	54600	63700	31900

Find the correct answer from the options given below:

[Question ID = 2434][Question Description = S2_q5H2_PG_6P24_Q03]

- 1. BCA
- 2. MCA
- 3. M.Tech
- 4. M.Phil

Correct Answer: 1. BCA

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	M.Phil
2016	31000	51000	60300	30000
2017	32500	51900	61400	30200
2018	33200	52000	62500	31600
2019	33600	53700	62900	31400
2020	34000	54600	63700	31900

Find the correct answer from the options given below:

[Question ID = 2435][Question Description = S2_q5H2_PG_6P24_Q03]

- 1. BCA
- 2. MCA
- 3. M.Tech
- 4. M.Phil

Correct Answer: 1. BCA

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

[Question ID = 2436][Question Description = S2_q5H2_PG_6P24_Q03]

- 1. 12500
- 2. 12000
- 3. 11500
- 4. 11000

Correct Answer: 2. 12000

7) Find out the average of difference of fees of MCA and M.Tech for 2016-2020.

[Question ID = 2437][Question Description = S2_q5H2_PG_6P24_Q03]

- 1. 7700
- 2. 7600
- 3. 7500
- 4. 7400

Correct Answer: 1. 7700

Topic: GP_26H0V_5H2_8

1) The web portal of Swayam Prabha is maintained by

[Question ID = 2438][Question Description = S2_q5H2_PG_6P24_Q06]

- 1. Indian Institute of Technology, Chennai
- 2. Indian Institute of Technology, Delhi
- 3. Central Institute of Educational Technology, IGIT
- 4. Ministry of Skill Development and Entrepreneurship

Correct Answer: 2. Indian Institute of Technology, Delhi

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

[Question ID = 2439][Question Description = S2_q5H2_PG_6P24_Q07]

- 1. Indian Institute of Technology, Delhi
- 2. Indian Institute of Technology, Chennai
- 3. Central Institute of Educational Technology, IGIT
- 4. Ministry of Skill Development and Entrepreneurship

Correct Answer: 1. Indian Institute of Technology, Delhi

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

[Question ID = 2440][Question Description = S2_q5H2_PG_6P24_Q08]

- 1. Both Statement I and Statement II are correct
- 2. Both Statement I and Statement II are incorrect
- 3. Statement I is correct and Statement II is incorrect
- 4. Statement I is incorrect and Statement II is correct

Correct Answer: 3. Statement I is correct and Statement II is incorrect

4) SWAYAM platform was developed by

- A. MHRD (now Ministry of Education), Government of India
- B. Google
- C. Microsoft
- D. IIT, Delhi
- E. Adobe Inc.

Choose the correct answer from the options given below

[Question ID = 2441][Question Description = S2_q5H2_PG_6P24_Q09]

- A. Microsoft
- B. Google
- C. IIT, Delhi
- D. Adobe Inc.
- E. MHRD (now Ministry of Education), Government of India

Correct Answer: E. MHRD (now Ministry of Education), Government of India

5) Which of the following is not a symbol?

- A. Word
- B. Gesture
- C. Image
- D. Sound
- E. None of these

[Question ID = 2442][Question Description = S2_q5H2_PG_6P24_Q10]

- A. Word
- B. Gesture
- C. Image
- D. Sound
- E. None of these

Correct Answer: E. None of these

6) Which of the following is not a symbol?

- A. Word
- B. Gesture
- C. Image
- D. Sound
- E. None of these

[Question ID = 2443][Question Description = S2_q5H2_PG_6P24_Q11]

- A. Word
- B. Gesture
- C. Image
- D. Sound
- E. None of these

Correct Answer: E. None of these

1. www.prepp.in

Option ID = 9733

A and C both are correct

Option ID = 9734

B and D both are correct

Option ID = 9735

D and C both are correct

Option ID = 9736

A and B both are correct

Option ID = 9737

5) Match the I with the II

Sign I	Role II
A. Courtesan	1. Artist, Architect
B. Uddhar	2. Sufi, Muslim
C. Edic	3. Andrew King, Daphne Keller
D. Khan Academy	4. Sebastian Thrun

Choose the correct answer from the options given below:

5) Match the I with the II

Sign I	Role II
A. Courtesan	1. Artist, Architect
B. Uddhar	2. Sufi, Muslim
C. Edic	3. Andrew King, Daphne Keller
D. Khan Academy	4. Sebastian Thrun

Choose the correct answer from the options given below:

Option ID = 2440

1. A - I, B - II, C - III, D - IV

2. A - II, B - IV, C - I, D - III

3. A - IV, B - I, C - II, D - III

4. A - II, B - III, C - IV, D - I

Correct Answer :

A, I, B, II, C, III, D, IV

Option ID = 9752

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

Option ID = 2441

1. Chi square test

2. One-tailed t-test

3. Two-tailed t-test

4. Student's t-test

Correct Answer :

Chi square test

Option ID = 9753

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

1. Understand the literature

2. Conduct new studies to fill the gap

3. Develop inclusion and exclusion criteria of the study

4. Identify primary studies

5. Identify secondary data

Correct Answer :

1, 2, 3, 4, 5

Option ID = 9754

8) Match the I with the II

Statement I	Statement II
A. Parametric statistics are more powerful than non-parametric statistics	1. True
B. Parametric statistics are assumption free statistics	2. False

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

Option ID = 2442

1. A and B are correct

2. B and C are correct

3. A and D are correct

4. B and D are correct

Correct Answer :

B and D

Option ID = 9755

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

Option ID = 2443

1. Survey method

2. Case study method

3. Life history method

4. Ethnographic method

Correct Answer :

Survey method

Option ID = 9756

10) 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:

Option ID = 2444

1. Both Statement I and Statement II are true

2. Both Statement I and Statement II are false

3. Statement I is true but Statement II is false

4. Statement I is false but Statement II is true

Correct Answer :

Both Statement I and Statement II are true

Option ID = 9757

11) In communication, entropy refers to

Option ID = 2445

1. Predictable message

2. Unpredictable message

3. Life history method

4. Ethnographic method

Correct Answer :

Unpredictable message

Option ID = 9758

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

Option ID = 2446

1. Perceptual barrier

2. Psychological barrier

3. Organizational barrier

4. Semantic barrier

Correct Answer :

Psychological barrier

Option ID = 9759

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

Option ID = 2447

1. Informal communication

2. Formal communication

3. Non-verbal communication

4. Verbal communication

Correct Answer :

Formal communication

Option ID = 9760

14) What is a blog?

Option ID = 2448

1. A website

2. A social media platform

3. A type of communication

4. A type of communication

Correct Answer :

A website

Option ID = 9761

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 not with whatever cognitive level they have.

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

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

Option ID = 2449

1. Both A and R are true and R is the correct explanation of A

2. Both A and R are true but R is not the correct explanation of A

3. A is true but R is false

4. A is false but R is true

Correct Answer :

Both A and R are true and R is the correct explanation of A

Option ID = 9762

- 1. Both Statement I and Statement II are false. (Option ID = 1000)
- 2. Both Statement I and Statement II are false. (Option ID = 1000)
- 3. Statement I is true but Statement II is false. (Option ID = 1001)
- 4. Statement I is false but Statement II is true. (Option ID = 1002)

Correct Answer :-
 • Both Statement I and Statement II are false. (Option ID = 1000)

29) Following are some statements regarding most of the web browsers. Choose the correct statements.

- A. They have a home page
- B. They do not have the ability to store users' favourite pages
- C. They have hyperlinks to allow users to navigate
- D. They do not keep a history of websites visited by the users

Choose the correct answer from the options given below:

- આચાર્યે કે ગ્રામીણોને સહાય કરવા માટે વેબ બ્રાઉઝરની કઈ લાક્ષણિકતાઓ જરૂરી છે?
- A. તેમને ઘરના પાના પર લાવવા
 - B. તેમને વેબ સાઇટોને સંગ્રહ કરવાની ક્ષમતા આપવા
 - C. તેમને હાઇપરલિંક્સનો ઉપયોગ કરવાની ક્ષમતા આપવા
 - D. તેમને વેબ સાઇટોની ઇતિહાસ જાળવવાની ક્ષમતા આપવા

[Question ID = 2464] [Question Description = S2_q5H2_PG_0P24_Q34]
 1. A and C only (Option ID = 1001)
 2. A and B only (Option ID = 1002)
 3. B and D only (Option ID = 1003)
 4. A and D only (Option ID = 1004)

Correct Answer :-
 • A and C only (Option ID = 1001)

30) Match List I with List II

List I	List II
Type of memory	Fabrication method
A. Dynamic Random Access Memory (DRAM)	I. Flip-flops
B. Static Random Access Memory (SRAM)	II. Floating gate transistor and capacitors
C. Programmable Read Only Memory (PROM)	III. Transistors and capacitors
D. Erasable Programmable Read Only Memory (EPROM)	IV. Matrix of fuses

Choose the correct answer from the options given below:

ગુણ-1 નો ગુણ-2 ની સુધારણા ઈલાજ :

ગુણ-1	ગુણ-2
A. વાચકોની સહાય કરવા માટે	I. ફ્લિપ-ફ્લોપ
B. વાચકોની સહાય કરવા માટે	II. ફ્લોટિંગ ગેટ ટ્રાન્ઝિસ્ટર અને કોન્ડેન્સર
C. વાચકોની સહાય કરવા માટે	III. ટ્રાન્ઝિસ્ટર અને કોન્ડેન્સર
D. વાચકોની સહાય કરવા માટે	IV. ફ્યુઝના મેટ્રિક્સ

[Question ID = 2465] [Question Description = S2_q5H2_PG_0P24_Q35]
 1. A - II, B - I, C - IV, D - III (Option ID = 1001)
 2. A - I, B - II, C - III, D - IV (Option ID = 1002)
 3. A - II, B - I, C - III, D - IV (Option ID = 1003)
 4. A - II, B - IV, C - I, D - III (Option ID = 1004)

Correct Answer :-
 • A - II, B - I, C - IV, D - III (Option ID = 1001)

31) Which one of the following Millennium Development Goals is about ensuring Environmental Sustainability?

આચાર્યે કે ગ્રામીણોને સહાય કરવા માટે વેબ બ્રાઉઝરની કઈ લાક્ષણિકતાઓ જરૂરી છે?

[Question ID = 2466] [Question Description = S2_q5H2_PG_0P24_Q36]
 1. Goal-1 (Option ID = 1001)
 2. Goal-2 (Option ID = 1002)
 3. Goal-3 (Option ID = 1003)
 4. Goal-7 (Option ID = 1004)

Correct Answer :-
 • Goal-7 (Option ID = 1004)

32) The air pollutant NOx is a combination of

[Question ID = 2467] [Question Description = S2_q5H2_PG_0P24_Q37]
 1. Nitrogen oxide and nitrogen dioxide (Option ID = 1001)
 2. Nitrogen oxide and carbon monoxide (Option ID = 1002)
 3. Nitrogen dioxide and carbon monoxide (Option ID = 1003)
 4. Nitrogen dioxide and nitrogen dioxide (Option ID = 1004)

Correct Answer :-
 • Nitrogen oxide and nitrogen dioxide (Option ID = 1001)

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

Assertion A: Schistosomiasis is a polluted water borne disease
 Reason R: Schistosomiasis is mainly caused due to the presence of sulphate in water

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

- આચાર્યે કે ગ્રામીણોને સહાય કરવા માટે વેબ બ્રાઉઝરની કઈ લાક્ષણિકતાઓ જરૂરી છે?
- વિધાનસભા (A) : સ્કિસ્ટોસોમિયાસિસ એક પ્રદૂષિત પાણી દ્વારા સંચારીત રોગ છે.
 કારણ (R) : સ્કિસ્ટોસોમિયાસિસ મુખ્યત્વે પાણીમાં સલ્ફેટની હાજરીને કારણે થાય છે.
- [Question ID = 2468] [Question Description = S2_q5H2_PG_0P24_Q38]
 1. Both A and R are true and R is the correct explanation of A (Option ID = 1001)
 2. Both A and R are true but R is not the correct explanation of A (Option ID = 1002)
 3. A is true but R is false (Option ID = 1003)
 4. A is false but R is true (Option ID = 1004)

Correct Answer :-
 • Both A and R are true and R is the correct explanation of A (Option ID = 1001)

34) Article 48A of the Indian Constitution directs the states to ensure protection and improvement of

[Question ID = 2469] [Question Description = S2_q5H2_PG_0P24_Q39]
 1. Environment (Option ID = 1001)
 2. Environment (Option ID = 1002)
 3. Environment (Option ID = 1003)
 4. Environment (Option ID = 1004)

Correct Answer :-
 • Environment (Option ID = 1001)

35) Which of the following states has maximum wind power potential in India as per MWAC's latest report?

[Question ID = 2470] [Question Description = S2_q5H2_PG_0P24_Q40]
 1. Rajasthan (Option ID = 1001)
 2. Tamil Nadu (Option ID = 1002)
 3. Karnataka (Option ID = 1003)
 4. Gujarat (Option ID = 1004)

Correct Answer :-
 • Rajasthan (Option ID = 1001)

36) HDQF will be aligned with International Standard Classification of Occupations maintained by

[Question ID = 2471] [Question Description = S2_q5H2_PG_0P24_Q41]
 1. ILO (Option ID = 1001)
 2. UNESCO (Option ID = 1002)
 3. HQF (Option ID = 1003)
 4. Ministry of Skill Development and Entrepreneurship (Option ID = 1004)

Correct Answer :-
 • ILO (Option ID = 1001)

37) SARATHI is

[Question ID = 2472] [Question Description = S2_q5H2_PG_0P24_Q42]
 1. A training programme for teachers launched by the Government of India (Option ID = 1001)
 2. A training programme for teachers launched by the Government of India (Option ID = 1002)
 3. A training programme for teachers launched by the Government of India (Option ID = 1003)
 4. A training programme for teachers launched by the Government of India (Option ID = 1004)

Correct Answer :-
 • A training programme for teachers launched by the Government of India (Option ID = 1001)

38) Given below are two statements

Statement I: The National Knowledge Commission recommended opening 100 universities to enable India to attain a Gross Enrolment Ratio of at least 20% by 2015

Statement II: The need to establish an Independent Regulatory Authority for Higher Education (IRHE) was recommended by the National Knowledge Commission

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

- આચાર્યે કે ગ્રામીણોને સહાય કરવા માટે વેબ બ્રાઉઝરની કઈ લાક્ષણિકતાઓ જરૂરી છે?
- વિધાનસભા (A) : 2015 સુધીમાં 100 યુનિવર્સિટીઓ ખોલવાને દ્વારા ભારતને 20% સુધીનો ગ્રોસ એનરોલમેન્ટ રેટો અપાવવાની સલાહ આપવામાં આવી છે.
 - વિધાનસભા (B) : 2015 સુધીમાં 100 યુનિવર્સિટીઓ ખોલવાને દ્વારા ભારતને 20% સુધીનો ગ્રોસ એનરોલમેન્ટ રેટો અપાવવાની સલાહ આપવામાં આવી છે.
 - વિધાનસભા (C) : 2015 સુધીમાં 100 યુનિવર્સિટીઓ ખોલવાને દ્વારા ભારતને 20% સુધીનો ગ્રોસ એનરોલમેન્ટ રેટો અપાવવાની સલાહ આપવામાં આવી છે.
 - વિધાનસભા (D) : 2015 સુધીમાં 100 યુનિવર્સિટીઓ ખોલવાને દ્વારા ભારતને 20% સુધીનો ગ્રોસ એનરોલમેન્ટ રેટો અપાવવાની સલાહ આપવામાં આવી છે.

[Question ID = 2473] [Question Description = S2_q5H2_PG_0P24_Q43]
 1. Both Statement I and Statement II are correct. (Option ID = 1001)
 2. Both Statement I and Statement II are incorrect. (Option ID = 1002)
 3. Statement I is correct but Statement II is incorrect. (Option ID = 1003)
 4. Statement I is incorrect but Statement II is correct. (Option ID = 1004)

Correct Answer :-
 • Both Statement I and Statement II are correct. (Option ID = 1001)

39) Which of the following statement(s) do NOT hold true with respect to the Vocational Education as per NPE-2009?

- A. Voc degrees introduced in 2013 will be discontinued
- B. Lok Vidyas courses will replace existing vocational courses
- C. Focus areas for vocational education will be chosen on skills gap analysis without mapping local opportunities
- D. National Committee for Integration of Vocational Education will be constituted
- E. Vocational education will be integrated into all schools and higher educational institutions in a phased manner over the next decade

Choose the correct answer from the options given below:

- વર્ષ 2020 ની આગળ નીચેના કયા કાલ્પનાત્મક વિધાન(વિધાનો) નો/નોં સત્ય નથી?
- A. વર્ષ 2013 ના અભ્યાસ કરવામાં આવેલા વોકેશનલ ડિગ્રી પ્રોગ્રામને અંત અપાવવામાં આવશે.
 - B. લોક વિદ્યાઓને અભ્યાસ કરવામાં આવેલા વોકેશનલ ડિગ્રી પ્રોગ્રામને અંત અપાવવામાં આવશે.
 - C. વોકેશનલ શિક્ષણને આગળ વધારવા માટે કૌશલ્ય ગેપ વિશ્લેષણને આધાર આપવામાં આવશે, પરંતુ સ્થાનિક અવકાશોને ધ્યાનમાં લેવામાં આવશે નહીં.
 - D. વોકેશનલ શિક્ષણને આગળ વધારવા માટે કૌશલ્ય ગેપ વિશ્લેષણને આધાર આપવામાં આવશે.
 - E. વોકેશનલ શિક્ષણને આગળ વધારવા માટે કૌશલ્ય ગેપ વિશ્લેષણને આધાર આપવામાં આવશે.

[Question ID = 2474] [Question Description = S2_q5H2_PG_0P24_Q44]

