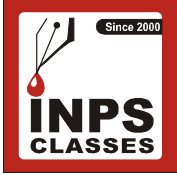


CUET 2024 Original Paper



01. Consider implementation of database. Among the following options, choose the most appropriate data structure for this
- (1) B+ tree (2) Linked list (3) Queue (4) Stack
02. There are 200 students in a school out of which 120 students play football, 50 students play cricket and 30 students play both football and cricket. The number of students who play one game only is:
- (1) 110 (2) 140 (3) 200 (4) 170
03. Which of the following are true:
- (A) Ogive graph is used to measure the median of the collection of data.
- (B) Two events A and B are such that $P(A) = 1/2$ and $P(B) = 7/12$ and $P(\text{not } A \text{ not } B) = 1/4$ then A and B are independent events.
- (C) Relation for mean, mode and median is given by $\text{Mode} = 3 \text{ Median} - 2 \text{ Mean}$.
- (D) The number of two-digits even number formed from digits 1, 2, 3, 4, 5, is 10.
- Choose the correct answer from the options given below:
- (1) (A) and (B) only (2) (A), (C) and (D) only (3) (C) and (D) only (4) (B) and (C) only
04. There are 15 points in a plane such that 5 points are collinear and no three of the remaining points are collinear then total number of straight lines formed are:
- (1) 105 (2) 95 (3) 96 (4) 106
05. Match List – I with List – II
- | List – I | List – II |
|-------------------|--|
| (A) Asynchronous | (I) A pulse that cause a logic device to be activated or change state |
| (B) Trigger | (II) The operation is not executed in step with the clock |
| (C) J–K Flip–flop | (III) Flip flop and atleast set, reset toggle and hold modes of operation. |
| (D) D flip flop | (IV) Flip flop with atleast set and rest modes of operations. |
- Choose the correct answer from the options given below:
- (1) [(A – I); (B – II); (C – III); (D – IV)] (2) [(A – II); (B – I); (C – III); (D – IV)]
- (3) [(A – III); (B – IV); (C – II); (D – I)] (4) [(A – I); (B – II); (C – IV); (D – III)]
06. Consider a system with 1K pages and 512 frames and each page is of size 2 KB. How many bits are required to represent the virtual address space memory:
- (1) 20 bits (2) 21 bits (3) 11 bits (4) 16 bits



CUET 2024 Original Paper



07. Match List – I with List – II

List – I (Function)

List – II (Range)

(A) $y = \frac{1}{2 - \sin 3x}$

(I) $\left(1, \frac{7}{3}\right]$

(B) $y = \frac{x^2 + x + 2}{x^2 + x + 1}, x \in \mathbb{R}$

(II) $\left[\frac{\pi}{2}, \pi\right) \cup \left(\pi, \frac{3\pi}{2}\right]$

(C) $y = \sin x - \cos x$

(III) $\left[\frac{1}{3}, 1\right]$

(D) $y = \cot^{-1}(-x) - \tan^{-1} x + \sec^{-1} x$

(IV) $[-\sqrt{2}, \sqrt{2}]$

Choose the correct answer from the options given below:

(1) [(A – III); (B – I); (C – IV); (D – II)]

(2) [(A – III); (B – II); (C – IV); (D – I)]

(3) [(A – II); (B – III); (C – I); (D – IV)]

(4) [(A – II); (B – III); (C – IV); (D – I)]

08. Each node is having a successor node in _____:

(1) Singly linked list

(2) Singly Circular Linked list

(3) Double Linked list

(4) Not possible in any linked list

09. How does the number of page frames affect and number of page faults for a given memory access pattern in FIFO page replacement algorithm?

(1) Increasing the number of page frames decreases the number of page faults.

(2) Increasing the number of page frames may increase or decrease the number of page faults depending on the memory access pattern.

(3) Increasing the number of page frames always increases the number of page faults.

(4) Increasing the number of page frames has no effect on the number of page faults.

10. Arrange the following in increasing order of their per unit cost.

(A) DRAM (B) Magnetic disk (C) Optical disk (D) SRAM (E) Magnetic tape

Choose the correct answer from the options given below:

(1) E, C, B, A, D

(2) E, C, B, D, A

(3) C, B, E, D, A

(4) C, B, D, E, A

11. An equilateral triangle is inscribed in a parabola $y^2 = 8x$ whose one vertex is at the vertex of the parabola then the length of the side of the triangle is:

(1) $8\sqrt{3}$ units

(2) $16\sqrt{3}$ units

(3) $4\sqrt{3}$ units

(4) $\sqrt{3}/2$ units

12. If x_1, x_2, x_3 as well as y_1, y_2, y_3 are in G.P. with the same common ratio, then the points $(x_1, y_1), (x_2, y_2)$ and (x_3, y_3)

(1) Lie on a straight line

(2) Lie on an ellipse

(3) Lie on a circle

(4) Are vertices of a triangle



CUET 2024 Original Paper



13. Match List – I with List – II

List – I

- (A) Flash memory
(B) PMOS
(C) NMOS
(D) CMOS

List – II

- (I) Oldest and Slowest
(II) Used in large scale integration (LSI)
(III) Least power consumption
(IV) Non volatile RAM which is powered continuously

Choose the correct answer from the options given below:

- (1) [(A – I); (B – IV); (C – III); (D – II)] (2) [(A – I); (B – IV); (C – II); (D – III)]
(3) [(A – IV); (B – I); (C – III); (D – II)] (4) [(A – IV); (B – I); (C – II); (D – III)]

14. Match List – I with List – II

List – I

- (A) Eccentricity of the conic $x^2 - 4x + 4y + 4y^2 = 12$ is
(B) Latus rectum of conic $5x^2 + 9y^2 = 45$ is
(C) The straight line $x + y = a$ touches the curve $y = x - x^2$ then value of a is
(D) Eccentricity of conic $3x^2 - y^2 = 4$ is

List – II

- (I) $\frac{10}{3}$
(II) 1
(III) 2
(IV) $\frac{\sqrt{3}}{2}$

Choose the correct answer from the options given below:

- (1) [(A – I); (B – II); (C – IV); (D – III)] (2) [(A – II); (B – I); (C – III); (D – IV)]
(3) [(A – IV); (B – I); (C – II); (D – III)] (4) [(A – IV); (B – II); (C – I); (D – III)]

15. The area of the region bounded by the curve $y^2 = 4x$ and $x^2 = 4y$ is

- (1) $\frac{16}{3}$ sq.units (2) $\frac{23}{6}$ sq.units (3) $\frac{13}{3}$ sq.units (4) $\frac{28}{5}$ sq.units

16. The value of x satisfies the inequality $|x - 1| + |x - 2| \geq 4$ if

- (1) $x \in \left(-\infty, -\frac{1}{2}\right] \cup \left[\frac{7}{2}, \infty\right)$ (2) $x \in \left(-\infty, -\frac{1}{2}\right) \cup \left(\frac{7}{2}, \infty\right)$ (3) $x \in \left[-\frac{1}{2}, \frac{7}{2}\right]$ (4) $x \in \left(-\frac{1}{2}, \frac{7}{2}\right)$

17. Four students are sitting on a bench to be photographed. Kamal is to the left of Amrita. Dipak is to the right of Amrita. Ankit is between Amrita and Dipak. Identify students sitting in corner's of the bench?

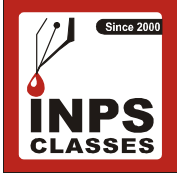
- (1) Kamal, Ankit (2) Kamal, Dipak (3) Dipak, Amrita (4) Amrita, Ankit

18. It has been established that

- (A) Aryabhatta was (B) Although a great mathematician
(C) Weak in science (D) Right from his school days.

What will be sequence to make a correct statement from the above options

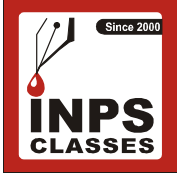
- (1) A, B, C, D (2) B, A, C, D (3) B, A, D, C (4) C, B, D, A



CUET 2024 Original Paper



19. Consider a completely skewed (left / right) binary search tree with n elements. What is the worst case time complexity of searching an element in this tree?
- (1) $O(n)$ (2) $O(1)$ (3) $O(\log n)$ (4) $O(n \log n)$
20. If the parametric equation of a curve is given by $x = e^t \cos t$ and $y = e^t \sin t$ then the tangent to the curve at the point $t = \frac{\pi}{4}$ makes the angle with the axis of x is
- (1) 0 (2) $\frac{\pi}{4}$ (3) $\frac{\pi}{3}$ (4) $\frac{\pi}{2}$
21. If we want to find last node of a singly linked list then the correct coding is
- (1) if (temp → link! = NULL) temp = temp → link
 (2) if (temp → data == Num) temp = temp → link
 (3) While (temp → link! = NULL) temp = temp → link
 (4) While (temp → link! = data) temp = temp → link
22. If $f(a + b - x) = f(x)$ then $\int_a^b xf(x) dx$ is equal to
- (1) $\frac{b+a}{2} \int_a^b f(x) dx$ (2) $\frac{b-a}{2} \int_a^b f(x) dx$ (3) $\frac{a+b}{2} \int_a^b f(a+x) dx$ (4) $\frac{a+b}{2} \int_a^b xf(x) dx$
23. If $x^2 + \frac{1}{x^2} = 2$ then the value of $x^{256} + \frac{1}{x^{256}}$ is
- (1) 1 (2) 0 (3) -2 (4) 2
24. Consider the system of linear equations as $2x + 2y + z = 1$, $4x + ky + 2z = 2$ and $kx + 4y + z = 1$ then choose the correct statement(s) from below
- (A) The system of equation has a unique solution if $k \neq 4$ and $k \neq 2$
 (B) The system of equations is inconsistent for every real number k
 (C) The system of equations have infinite number of solutions if $k = 4$
 (D) The system of equations have infinite number of solutions if $k = 2$
- Choose the correct answer from the options given below.
- (1) (A), (B) and (D) only (2) (A), (B) and (C) only
 (3) (A), (C) and (D) only (4) (C) and (D) only.
25. What is the missing term: 5, 17, 37, 65, _____, 145.
- (1) 100 (2) 101 (3) 102 (4) 99
26. The function represented by the k -map given below is
- | k - map | | | | |
|---------|----|----|----|----|
| C/AB | 00 | 01 | 11 | 10 |
| 0 | 0 | 1 | 1 | 1 |
| 1 | 0 | 0 | 1 | 0 |
- (1) $BC + AB + AC'$ (2) $BC' + AB + AC'$ (3) $(B \oplus C)'$ (4) $A \cdot BC$



CUET 2024 Original Paper



27. Let A' represent complement of A . Which of the following boolean expressions is/are true?
 (A) $A + AB = A$ (B) $(A + B)' = A' B'$ (C) $(A')' = A$ (D) $(AB)' = A' + B'$

Choose the correct answer from the options given below:

- (1) (A), (B) and (D) only (2) (A) and (D) only
 (3) (A), (B), (C) and (D) (4) (B) and (D) only.
28. The function $f(x) = [x]^n$, integer $n \geq 2$ (where $[y]$ is the greatest integer less than or equal to y), is discontinuous at all point of
 (1) real number (2) all non-integer real numbers (3) only at zero (4) integers
29. A logic circuit, that can add two 1-bit numbers and produce output for sum and carry but cannot handle carry, input, is called _____.
 (1) Half adder (2) Full adder (3) Multiplexer (4) Encoder
30. On a system using simple segmentation, following is the segment table:

Segment	Limit	Base
0	500	1000
1	200	2000
2	300	2500
3	100	1700

What is the physical address for the logical address 2, 212?

- (1) 2712 (2) 512 (3) 2212 (4) 2800
31. Match List – I with List – II

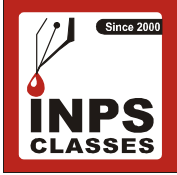
List – I

List – II

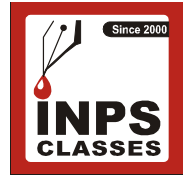
- (A) $\int_0^{\frac{\pi}{2}} \frac{\sin^4 x}{\sin^4 x + \cos^4 x} dx$ (I) 0
- (B) $\int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \frac{1}{1 + \sqrt{\tan x}} dx$ (II) 1
- (C) $\int_0^1 x e^x dx$ (III) $\frac{\pi}{12}$
- (D) $\int_{-1}^1 x^{109} \cos^{88} x dx$ (IV) $\frac{\pi}{4}$

Choose the correct answer from the options given below:

- (1) [(A – IV); (B – III); (C – I); (D – II)] (2) [(A – IV); (B – III); (C – II); (D – I)]
 (3) [(A – III); (B – IV); (C – II); (D – I)] (4) [(A – III); (B – IV); (C – I); (D – II)]



CUET 2024 Original Paper



32. If the roots of the equation $x^2 + 4x + a^2 - 3a = 0$ are real then the value of a (is / are)
- (1) $a \in (-\infty, -1) \cup (4, \infty)$ (2) $a \in (-\infty, -1] \cup [4, \infty)$ (3) $a \in [-2, 4]$ (4) $a \in [-1, 4]$
33. Choose the odd one out.
- (1) August (2) October (3) November (4) March
34. Statement: Some pens are books.
All schools are Books.
Some Colleges are Schools.
Consider the following conclusions based on above statements.
- (A) Some Colleges are pens.
(B) Some Pens are Schools.
(C) Some Colleges are books.
- Choose the correct conclusions from the options given below:
- (1) (A) and (B) (2) (A), (B) and (C) (3) (C) only (4) (B) and (C) only
35. If P means '+', A means '×', B means '-' and J means '÷', then $14J2P3A6B7 = ?$
- (1) 28 (2) 18 (3) 4 (4) 35
36. Which of the following statement sare TRUE?
- (A) A equation $ax^2 + bx + c = 0$ has real and distinct roots if $b^2 - 4ac \geq 0$ and $a \neq 0$.
(B) The unit digit in 49^{18} is 1.
(C) If two lines make complementary angles with the axis of x then the product of their slopes is 1.
(D) The line $bx - ay = 0$ meet the hyperbola $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$.
- Choose the correct answer from the options given below:
- (1) (A) and (D) only (2) (B) and (C) only (3) (A), (B) and (C) only (4) (A), (B) and (D) only
37. The line passes through a point (2, 3) such that sum of its intercepts on the axes is 12 then equation of line/s is/ are given by
- (A) $3x + y = 9$ (B) $x + 3y = 9$ (C) $x + 2y = 8$ (D) $5x + 7y = 35$
- Choose the correct answer from the options given below:
- (1) (A) only (2) (A), (B) and (C) only (3) (A) and (C) only (4) (B), (C) and (D) only
38. $\lim_{x \rightarrow 0} \frac{\sqrt{1 - \cos 2x}}{x} =$
- (1) 0 (2) 1 (3) $\sqrt{2}$ (4) $1/2$



CUET 2024 Original Paper



39. Arrange the following in the increasing order of their asymptotic complexities:
- (A) Insertion sort (best case) (B) Bubble sort (worst case)
 (C) Binary Search (worst case) (D) Merge sort (worst case)
 (1) A, C, B, D (2) D, A, C, B (3) A, B, C, D (4) C, A, D, B
40. If permutation of the letters of the word 'AGAIN' are arranged in the order as in a dictionary then 49th word is
- (1) INGAA (2) INAAG (3) NAAGI (4) GNAAI
41. The mean of 5 data is 5.2 and their variance is 27.296. If three of the data are 1, 3 and 6 then other two data are
- (1) 12 and 4 (2) 9 and 7 (3) 10 and 6 (4) 11 and 5
42. If the vertices of a triangle are (1, 2), (2, 5) and (4, 3) then the area of the triangle is:
- (1) 3 sq. units (2) 4 sq. units (3) 6 sq. units (4) 8 sq. units
43. Which of the following statements are TRUE?
- (A) If each element in a row is a constant multiplier of corresponding element of another row of a determinant, then the value of the determinant is always non-zero.
 (B) If each element on one side of the principal diagonal of a determinant is zero, then the value of the determinant is the product of the diagonal elements.
 (C) The value of determinant of skew symmetric matrix of odd order is always non-zero.
 (D) If A is non-singular matrix of order three, then $|\text{adj}A| = |A|^2$
- Choose the correct answer from the options given below:
- (1) (B) and (D) only (2) (A) and (B) only (3) (A), (B) and (C) only (4) (A), (C) and (D) only
44. There is a certain relation between two given words on left side of :: and one word is given on the right side of :: while another word is missing. Select the missing word which have same relation as the word pairs on the left side of :: symbol.
- Current : Circuit :: Earth : ?
- (1) Solar System (2) Orbit (3) Planet (4) Moon
45. Decreasing the RAM of a computer typically leads to which of the following outcomes?
- (1) Virtual memory increases (2) Page faults increases
 (3) Page faults decreases (4) Segmentation faults occurs.
46. Choose the missing characters?
- 4 5 6
 4 ? 15
 4 13 28
- (1) 5 (2) 7 (3) 9 (4) 8



CUET 2024 Original Paper

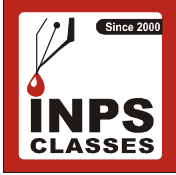


47. We can say that a schedule is conflict serializable?
- (1) If a schedule T can be transformed into a serial schedule U by a series of swaps of conflicting operations.
 - (2) If a schedule T can be transformed into a serial schedule U by a series of swaps of nonconflicting operations.
 - (3) If a schedule T can be transformed into a nonserial schedule U by a series of swaps of conflicting operations.
 - (4) If a schedule T can be transformed into a nonserial schedule U by a series of swaps of nonconflicting operations.

48. A function $f(x)$ is defined as $f(x) = \begin{cases} \frac{1 - \cos 4x}{x^2} & ; x < 0 \\ a & ; x = 0 \\ \frac{\sqrt{x}}{\sqrt{(16 + \sqrt{x}) - 4}} & ; x > 0 \end{cases}$

if the function $f(x)$ is continuous at $x = 0$, then the value of a is:

- (1) 4 (2) 6 (3) 8 (4) 10
49. The following integers are needed to be stored in ascending order using bubble sort.
5, 8, 22, 18, 1
Following are the results of various passes during the sorting process.
- (1) 5, 1, 8, 18, 22 (2) 1, 5, 8, 18, 22 (3) 5, 8, 18, 1, 22 (4) 5, 8, 1, 18, 22
50. The range of integers that can be represented by a 2's complements number system is _____.
where n is number of bits in number.
- (1) -2^{n-1} to $2^{n-1} - 1$ (2) $-(2^{n-1} - 1)$ to $(2^{n-1} - 1)$
(3) -2^{n-1} to 2^{n-2} (4) $-(2^{n-1} + 1)$ to $(2^{n-1} - 1)$
51. The equation of a circle that passes through the points (3, 0) and (0, -2) and its lies on a line $2x + 3y = 3$ then equation of the circle is given by:
- (1) $x^2 + y^2 + 2x + 16y + 72 = 0$ (2) $10x^2 + 10y^2 - 6x - 16y - 72 = 0$
(3) $5x^2 + 5y^2 + 6x + 16y + 72 = 0$ (4) $10x^2 + 10y^2 + 6x + 16y - 72 = 0$
52. K is the son of A's mother's sister. Q is daughter of D, who is the father of G and grandfather of A. P is the daughter of H who is grandmother of K. D is husband of H and G is husband of L. How is P related to Q?
- (1) Sister (2) Mother (3) Daughter (4) Cousin
53. Given $\sqrt{(224)}_r = (13)_r$ where r is the radix. The value of r is _____.
- (1) 10 (2) 8 (3) 5 (4) 6



CUET 2024 Original Paper



54. What are the ways to implement a priority Queue?
 (A) Arrays (B) Fibonacci tree (C) Heap Data Structure (D) Linked list

Choose the correct answer from the options given below:

- (1) (A), (B) and (D) only (2) (B), (C) and (D) only
 (3) (A), (B), (C) and (D) (4) (A), (C) and (D) only
55. An operating system contains 4 user processor each requiring 5 units of resource R. The minimum number of required units of R such that no deadlock will ever occur is
 (1) 20 (2) 4 (3) 17 (4) 15
56. The current allocation and Maximum requirement of different types of resources for four processes are given below:

Process	Max			Allocation			Availabe		
	R1	R2	R3	R1	R2	R3	R1	R2	R3
P1	8	6	4	1	2	1	4	4	5
P2	4	3	3	3	1	1			
P1	10	1	3	4	1	3			
P4	3	3	3	3	2	2			

Consider the following four statements.

- (A) $P2 \rightarrow P4 \rightarrow P1 \rightarrow P3$ is a safe sequence (B) $P4 \rightarrow P2 \rightarrow P1 \rightarrow P3$ is a safe sequence
 (C) $P4 \rightarrow P2 \rightarrow P2 \rightarrow P1$ is a safe sequence (D) $P1 \rightarrow P4 \rightarrow P2 \rightarrow P3$ is a safe sequence
- Identify correct statements from the given options.
- (1) (A), (B) and (D) only (2) (A), (B) and (C) only
 (3) (B), (C) and (D) only (4) A, (B), (C), (D)
57. In a class, $\frac{4}{5}$ of the students are boys and rest are girls. If $\frac{2}{5}$ of the boys and $\frac{1}{4}$ of girls are absent, what part of the total number of students is present?
 (1) $\frac{37}{100}$ (2) $\frac{63}{100}$ (3) $\frac{53}{100}$ (4) $\frac{47}{100}$

58. Match List – I with List – II

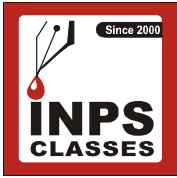
List – I (Algorithms)

List – II (Complexity)

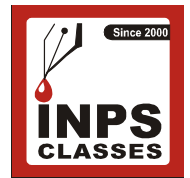
- | | |
|--|--------------------------|
| (A) Bellman - Ford algorithm (with adjacencylist representation) | (I) $O(V ^2)$ |
| (B) Dijkstra Algorithm | (II) $O((V + E) \log V)$ |
| (C) Prim's Algorithm | (III) $O(nm)$ |
| (D) Topological sorting (with adjacency list representation) | (IV) $O(n + m)$ |

Choose the correct answer from the options given below:

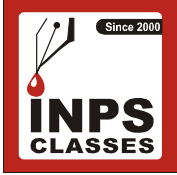
- (1) [(A – III); (B – I); (C – II); (D – IV)] (2) [(A – II); (B – IV); (C – III); (D – I)]
 (3) [(A – III); (B – IV); (C – I); (D – II)] (4) [(A – II); (B – I); (C – III); (D – IV)]



CUET 2024 Original Paper



59. Let $\alpha > 2$ is an integer. If there are only 10 positive integers satisfying the inequality $(x - \alpha)(x - 2\alpha)(x - \alpha^2) < 0$ then the value/s of α is
- (1) 3 and 4 (2) 3 (3) -3 (4) 4
60. $\int \frac{(x^5 - x)^{\frac{1}{5}}}{x^6} dx$ is equal to (where C is an arbitrary constant)
- (1) $\left(1 - \frac{1}{x^4}\right)^{\frac{4}{5}} + C$ (2) $\left(x^4 - \frac{1}{x^4}\right)^{\frac{6}{5}} + C$ (3) $\frac{5}{24}\left(1 - \frac{1}{x^4}\right)^{\frac{6}{5}} + C$ (4) $\frac{5}{24}\left(x^4 - \frac{1}{x^4}\right)^{\frac{6}{5}} + C$
61. Consider the following statements
- (A) RAM is a combinational circuit (B) RAM is sequential circuit
(C) PLA is a combinational circuit (D) PLA is a sequential circuit
- Which of the above statements are true
- (1) (A) and (D) only (2) (B) and (C) only (3) (B) and (D) only (4) (A) and (C) only
62. The idea of cache memory is based on the which of the following?
- (1) Principle of locality reference.
(2) Based on the fact that large portion of a program is referenced relatively.
(3) Principle of 10 – 90 rule
(4) Non volatile storage
63. Which of the following is not an applicaiton of Stack?
- (1) Tower of Hanoi (2) Recursion (3) Voter polling station (4) Parantheses Matching
64. Amit was counting down from 34, Punit was counting upwards the numbers starting from 2 and he was calling out only the even numbers. What common number will they call out at the same time if they were calling out at the same speed?
- (1) 22 (2) 23 (3) 24 (4) They will not call out the same number
65. How many child processes will be created by following fork() system call?
- ```
fork();
fork();
fork();
fork();
```
- (1) 4                      (2) 16                      (3) 15                      (4) 3



# CUET 2024 Original Paper



66. An equation of conic is  $ax^2 + 2hxy + by^2 + 2gx + 2fy + c = 0$ , where  $a, b, c, f, g$  and  $h$  are constants.

Then which of the following statements are true?

- (A) The given conic is circle if  $a = 0$  and  $b = 0$ .  
 (B) The given conic is circle if  $a = b \neq 0$  and  $h = 0$ .  
 (C) The given conic is circle if  $a = b \neq 0$  and  $h \neq 0$ .  
 (D) The given conic represents a pair of real and distinct straight lines if  $f = g = c = 0$  and  $h^2 - ab > 0$ .

Choose the correct answer from the options given below:

- (1) (B) only                      (2) (B) and (D) only                      (3) (A), (B), (C) and (D)                      (4) (D) only

67. Match List – I with List – II

**List – I**

**Function  $f(x)$**

(A)  $f(x) = \frac{\log(1+4x)}{x}$

(B)  $f(x) = \frac{\log(4+x) - \log 4}{x}$

(C)  $f(x) = \frac{x}{\sin x}$

(D)  $f(x) = \frac{1 - \cos^3 x}{x \sin 2x}$

**List – II**

**$f(0)$**

(I)  $\frac{1}{4}$

(II) 1

(III) 4

(IV)  $\frac{3}{4}$

Choose the correct answer from the options given below:

- (1) [(A – I); (B – III); (C – IV); (D – II)]                      (2) [(A – I); (B – III); (C – II); (D – IV)]  
 (3) [(A – III); (B – I); (C – II); (D – IV)]                      (4) [(A – III); (B – I); (C – IV); (D – II)]

68. Match List – I with List – II

**List – I**

(A) Critical Region

(B) Working Set

(C) Deadlock

(D) Wait/signal

**List – II**

(I) Circular wait

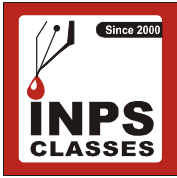
(II) Condition variable

(III) Principle of locality

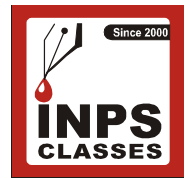
(IV) Mutual exclusion

Choose the correct answer from the options given below:

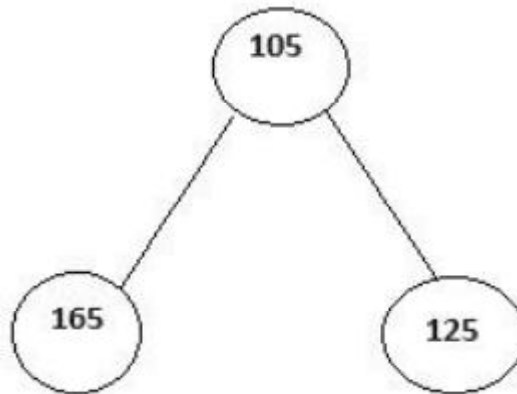
- (1) [(A – IV); (B – III); (C – I); (D – II)]                      (2) [(A – IV); (B – III); (C – II); (D – I)]  
 (3) [(A – III); (B – IV); (C – II); (D – I)]                      (4) [(A – III); (B – IV); (C – I); (D – II)]



# CUET 2024 Original Paper



69. Consider the following tree. This is a / a \_\_\_\_\_.



- (1) AVL Search Tree    (2) Binary Tree    (3) Binary Search Tree    (4) Fibonacci Tree

70. Which of the following statements are NOT TRUE?

- (A) If A and B are symmetric matrices, then  $AB - BA$  is a skew symmetric matrix.
- (B) Multiplying a determinant by k means multiply elements of one column by k.
- (C) If  $A^2 - A + I = 0$ , then  $A^{-1}$  is equal to  $A + I$ .
- (D) If A and B are invertible matrices of same order, then  $(A + B)^{-1} = B^{-1} + A^{-1}$ .

Choose the correct answer from the options given below:

- (1) (A), (B) and (D) only    (2) (B), (C) and (D) only    (3) (C) and (D) only    (4) (A) and (C) only

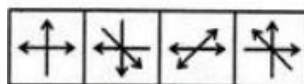
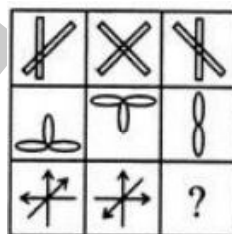
71. One day, Amit left home and cycled 15 km southwards, turned right and cycled 7 km and turned right and cycled 10 km and turned left and cycled 5 km. How many kilometers will he have to cycle to reach his home?

- (1) 17 km    (2) 12 km    (3) 13 km    (4) 37 km

72. What is the 10th term of the following series: 7, 14, 28, .....

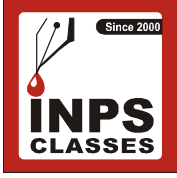
- (1) 3076    (2) 3584    (3) 56    (4) 6114

73. Select a suitable figure from the given options that would complete the figure matrix?



- (A) (B) (C) (D)

- (1) (A)    (2) (B)    (3) (C)    (4) (D)

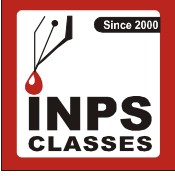


# CUET 2024 Original Paper

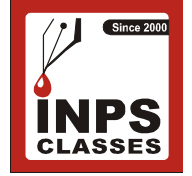


74. In a computer if the page fault service time is 10 ms and average memory access time is 30 ns. If one page fault is generated for every 106 memory accesses. What is the effective access time for the memory?
- (1) 21 ns approximate (2) 25 ns approximate (3) 30 ns approximate (4) 40 ns approximate
75. In a certain code if SCOTLAND is written as 12345678, LOAN is written as 1435, LOTS is written as 8124, DAN is written as 537 and SON is written as 458, then what will be the code for 'C'?
- (1) 4 (2) 5 (3) 6 (4) 8

INPS



# CUET 2024 Original Paper



## Answer Key

|         |         |         |         |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 01. (1) | 02. (1) | 03. (2) | 04. (3) | 05. (2) | 06. (2) | 07. (1) | 08. (2) | 09. (2) | 10. (1) |
| 11. (2) | 12. (1) | 13. (4) | 14. (3) | 15. (1) | 16. (1) | 17. (2) | 18. (2) | 19. (1) | 20. (4) |
| 21. (3) | 22. (1) | 23. (4) | 24. (3) | 25. (2) | 26. (2) | 27. (3) | 28. (4) | 29. (1) | 30. (1) |
| 31. (2) | 32. (4) | 33. (3) | 34. (3) | 35. (2) | 36. (2) | 37. (3) | 38. (3) | 39. (4) | 40. (3) |
| 41. (2) | 42. (2) | 43. (1) | 44. (2) | 45. (2) | 46. (3) | 47. (2) | 48. (3) | 49. (2) | 50. (1) |
| 51. (2) | 52. (1) | 53. (3) | 54. (4) | 55. (3) | 56. (2) | 57. (2) | 58. (1) | 59. (4) | 60. (3) |
| 61. (2) | 62. (1) | 63. (3) | 64. (4) | 65. (3) | 66. (2) | 67. (3) | 68. (1) | 69. (2) | 70. (3) |
| 71. (3) | 72. (2) | 73. (3) | 74. (2) | 75. (1) |         |         |         |         |         |