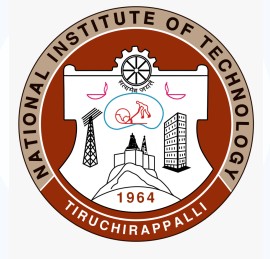


NIMCET 2026 June 6

Question Paper (Memory-Based)

Conducted by National Testing Agency (NTA)



General Instructions

- (i) The examination will be conducted in Computer-Based Test (CBT) mode.
- (ii) Each question carries +4 marks for a correct answer and -1 mark for a wrong answer.
- (iii) The total number of questions is 120.
- (iv) Duration of the exam is 2 hours (120 minutes).

1. If $A \subseteq B$ and $B \subseteq C$, then cardinality of $A \cup B \cup C$ is equal to:

- (A) Cardinality of C
- (B) Cardinality of B
- (C) Cardinality of A
- (D) None of the above

2. There are two sets A and B with $|A| = m$ and $|B| = n$. If $|P(A)| - |P(B)| = 112$, choose the wrong option.

- (A) $m + n = 11$
- (B) $2m - n = 3$
- (C) $2m - n = 1$
- (D) $3n - m = 5$

3. A survey is done among 200 people. 60% like tea and 72% like coffee. Let x be the number who like both. Let $m \leq x \leq n$. Find the correct option.

- (A) $n - m = 56$
- (B) $n - m = 28$
- (C) $n - m = 32$

(D) $n + m = 92$

4. The maximum value of $\sin x + \sin(x + 1)$ is $k \cos \frac{1}{2}$. Find k .

- (A) 1
 - (B) 3
 - (C) 2
 - (D) None of these
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5. If the equation $\cos^4 \theta + \sin^4 \theta + \lambda = 0$ has real solutions, then λ lies in which interval?

- (A) $(-\frac{5}{4}, -1)$
 - (B) $[-1, -\frac{1}{2}]$
 - (C) $(-\frac{1}{2}, -\frac{1}{4}]$
 - (D) $[-\frac{3}{2}, -\frac{5}{4}]$
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6. What is the decimal equivalent of binary number 101101?

- (A) 43
 - (B) 45
 - (C) 47
 - (D) 49
-

7. Convert decimal number 25 into binary.

- (A) 11001
 - (B) 10101
 - (C) 11101
 - (D) 10011
-

8. Overflow occurs when:

- (A) Result exceeds storage
 - (B) Memory is full
 - (C) CPU stops
 - (D) Program ends
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9. Floating-point representation is mainly used for:

- (A) Characters
 - (B) Integers
 - (C) Real numbers
 - (D) Logic values
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10. IEEE 754 single precision uses:

- (A) 16 bits
 - (B) 32 bits
 - (C) 64 bits
 - (D) 128 bits
-

11. The price of a laptop is first increased by $x\%$, then decreased by $x\%$. The new price becomes $\frac{7}{16}$ of the original price. Find the value of x .

- (A) 50%
 - (B) 25%
 - (C) 75%
 - (D) 62.5%
-

12. The average weight of 24 students in a class is 52 kg. If the weight of the teacher is added, the average increases by 1 kg. Find the weight of the teacher.

- (A) 76 kg
 - (B) 77 kg
 - (C) 75 kg
 - (D) 53 kg
-

13. The difference between Compound Interest (compounded annually) and Simple Interest on a certain sum of money at 10% per annum for 3 years is 155. Find the principal sum.

- (A) 4000
 - (B) 5000
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- (C) 6000
 - (D) 5500
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14. A dishonest dealer claims to sell his goods at a loss of 10% on cost price but uses a false weight of 800 g instead of 1 kg. Find his actual profit or loss percentage.

- (A) 12.5% profit
 - (B) 10% loss
 - (C) 11.11% profit
 - (D) 25% profit
-

15. A jar contains a mixture of two liquids A and B in the ratio 4 : 1. When 10 liters of the mixture is taken out and 10 liters of liquid B is poured into the jar, the ratio becomes 2 : 3. How many liters of liquid A was contained in the jar initially?

- (A) 12 l
 - (B) 16 l
 - (C) 20 l
 - (D) 24 l
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16. A person who deliberately sets fire to buildings or property.

- (A) Iconoclast
 - (B) Pyromaniac
 - (C) Misanthrope
 - (D) Philanthropist
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17. One who studies ancient inscriptions and writings.

- (A) Archaeologist
 - (B) Epigraphist
 - (C) Numismatist
 - (D) Genealogist
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18. One who collects and studies coins.

- (A) Philatelist
 - (B) Numismatist
 - (C) Archivist
 - (D) Antiquarian
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19. A person who believes that pleasure is the highest good.

- (A) Stoic
 - (B) Cynic
 - (C) Hedonist
 - (D) Ascetic
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20. A person who opposes established beliefs and traditions.

- (A) Heretic
 - (B) Fanatic
 - (C) Disciple
 - (D) Martyr
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