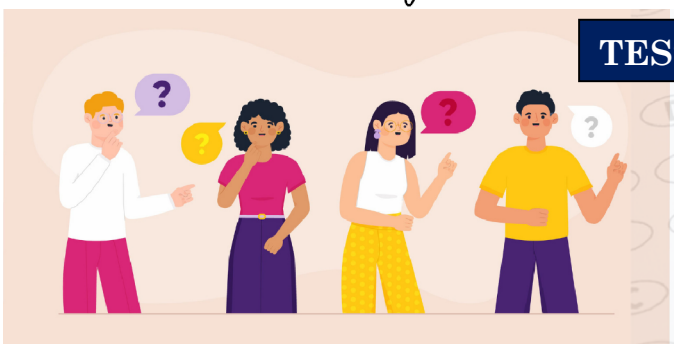

TEST-06

MULTIPLE CHOICE TYPE QUESTIONS

For 2025 Exams - Mathematics (041) - Class 11

☑ ***Select the correct option in the followings. Each question carries 1 mark.***

01. What is the number of ways of arrangement of letters of word BANANA?

(a) 40 (b) 60 (c) 80 (d) 100

02. If $^{15}P_{n-1} : {}^{16}P_{n-2} = 3:4$, then $n =$

(a) 10 (b) 12 (c) 14 (d) 15

03. If 7 points out of 12 are in the same straight line, then what is the number of triangles formed?

(a) 84 (b) 175 (c) 185 (d) 201

04. In how many ways can a bowler take four wickets in a single 6 balls over?

(a) 6 (b) 15 (c) 20 (d) 30

05. What is the number of signals that can be sent by 6 flags of different colours taking one or more at a time?

(a) 45 (b) 63 (c) 720 (d) 1956

06. If $^{n}C_{12} = {}^{n}C_{8}$, then $^{n}C_{2}$ is equal to

(a) 20 (b) 190 (c) 1 (d) 30

07. If $^{m}C_{1} = {}^{n}C_{2}$, then

(a) $2m = n$ (b) $2m = n(n+1)$ (c) $2m = n(n-1)$ (d) $2n = m(m-1)$

08. If $^{n}C_{r} + {}^{n}C_{r-1} = {}^{n+1}C_{x}$, then $x =$

(a) r (b) $r-1$ (c) n (d) $r+1$

09. If $^{43}C_{r-6} = {}^{43}C_{3r+1}$, then value of r is

(a) 12 (b) 8 (c) 6 (d) 10

10. What is the number of ways of arrangement of all the letters of word SABINA?

(a) 720 (b) 360 (c) 280 (d) 120

11. Everybody in a room shake hands with everybody else. The total number of handshakes is 66. Then the total number of persons in the room is

(a) 11 (b) 10 (c) 66 (d) 12

12. Using 1, 2, 3, …, 9, how many 4-digit numbers with no digit being repeated can be formed?

(a) 126 (b) 15120 (c) 3024 (d) 6561

13. Value of ${}^5P_3$ is

(a) 120 (b) 40 (c) 20 (d) 60

14. If ${}^nC_{12} = {}^nC_8$, then n is equal to

(a) 20 (b) 12 (c) 6 (d) 30

15. The number of possible outcomes when a coin is tossed 6 times is

(a) 36 (b) 64 (c) 12 (d) 32

16. The number of different four digit numbers that can be formed with the digits 2, 3, 4, 7 and using each digit only once is

(a) 120 (b) 96 (c) 24 (d) 100

17. Total number of words formed by using 2 vowels and 3 consonants taken from 4 vowels and 5 consonants is equal to

(a) 60 (b) 120 (c) 7200 (d) 720

18. The number of triangles that are formed by choosing the vertices from a set of 12 points, eight of which lie on the same line is

(a) 185 (b) 220 (c) 212 (d) 164

19. The number of ways in which a team of eleven players can be selected from 22 players always including 2 of them and excluding 4 of them is

(a) ${}^{16}C_{11}$ (b) ${}^{16}C_5$ (c) ${}^{16}C_9$ (d) ${}^{20}C_9$

20. The number of 5-digit telephone numbers having at least one of their digits repeated is

(a) 90,000 (b) 10,000 (c) 30,240 (d) 69,760

21. The number of ways in which we can choose a committee from four men and six women so that the committee includes at least two men and exactly twice as many women as men is

(a) 94 (b) 126 (c) 128 (d) None of these

22. The total number of 9 digit numbers which have all different digits is

(a) 10! (b) 9! (c) $9 \times 9!$ (d) $10 \times 10!$

23. If ${}^nC_4 = {}^nC_3$, then ${}^nC_n$ is equal to

(a) 7 (b) 12 (c) 1 (d) 21

*Question numbers **24** and **25** are Assertion and Reason based questions. Two statements are given, one labelled **Assertion (A)** and the other labelled **Reason (R)**. Select the correct answer from the codes (a), (b), (c) and (d) as given below.*

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
(b) Both Assertion (A) and Reason (R) are true and Reason (R) is **not** the correct explanation of Assertion (A).
(c) Assertion (A) is true but Reason (R) is false.
(d) Assertion (A) is false but Reason (R) is true.

24. **Assertion (A) :** Four digit numbers are formed using the digits 1, 2, 3, 4 and 5 without repetition in all possible ways, out of these only 48 numbers are even.

Reason (R) : The number is even if the sum of all digits is divisible by 2.

25. **Assertion (A) :** If the letters H, I, C, P are arranged in a row in all possible ways and the words (with or without meaning) so formed are written as in dictionary, then word CHIP occurs in the first position.

Reason (R) : The number of ways of arranging four distinct objects all at time is ${}^4C_4$.

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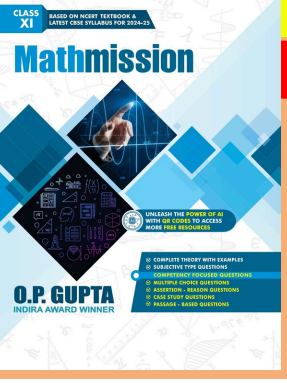

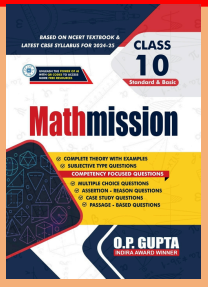

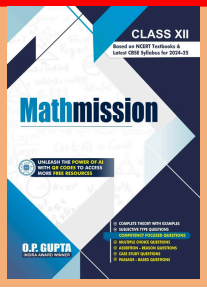

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