Grade-12 Mathematics
Chapter-5 (Permutation and Combination)

1. Which expression cannot be evaluated?

   A. $^7P_5$ B. $^8P_3$ C. $^9P_{10}$ D. $^{10}P_9$

2. Four-digit numbers without any repeat is

   A. 4536   B. 5040   C. 4050   D. 5436

3. How many numbers of at most three different digits can be formed from the integers 1, 2, 3, 4, 5,6?

   A. 246   B. 146   C. 259   D. 157

4. The number of ways 7 children are arranged in a line such that three particular children of them are always together is

   A. 840   B. 740   C. 820   D. 720

5. If $^nP_4 = 2\ ^nP_3$, then n =?

   A. 5   B. 6   C. 7   D. 8

6. The number of diagonals of 9 sides polygon is

   A. 36   B. 27   C. 28   D. 26

7. How many different rearrangements are there of the letter "BUBBLE".

   A. 40   B. 50.   C. 70   D. 120

8. The number of ways to choose 3 red balls and 2 white balls from 7 red balls and 6 white ball is

   A. 420   B. 525   C. 540   D. 620

9. A student has 12 different books on her bookshelf. She wants to take 6 of them with her on trip. How many selections of 6 books could she make?

   A. 72   B. 720   C. 924   D. 665280

10. The value of $\dfrac{5!+4!-3!}{3!}$ is

    A. 25   B. 23   C. 20   D. 5

11. If a door opener has a 10 – digit keypad, containing 0, 1, 2, …, 9 and the code to open the door must be a 5-digit code, how many codes are possible to create?

    A. 5   B. 10   C. 10000   D.100000

12. In how many ways can a permutation of all the letters of the word **EXCELLENCE** be formed?

    A. 38700   B. 3870   C. 3780   D. 37800

13. The number of ways of selection two numbers from the set (1, 2,…,12) whose sum is divisible by 3 is

    A. 6   B. 16   C. 22   D. 66

14. Suppose there are 4 black cars and 7 white cars. If all the cars are distinguishable, in how many ways can 3 cars of the same colour be chosen?

    A. 37   B. 38   C. 39   D. 40

15. After a sport tournament, each player shakes hands with every other player once. If there are 36 handshakes in total, the number of players at the tournament is

    A. 18   B. 10   C. 9   D. 8

16. A security code consists of 3 letters followed by 1 digit. The first letter in the code must be a vowel. How many different codes are possible?

    A. 33800   B. 3390   C. 141960   D. 1757600

17. A multiple-choice test has 10 questions. Each question has 4 choices: A, B, C, D. How many ways can the test be answered?

    A. 2985984   B. 1048576   C. 210   D. 72

18. How many number of three different digits less than 500 can be formed from the integers 1, 2, 3, 4, 5, 6, 7?

    A. 24   B. 100   C. 210   D. 120

19. A coin is tossed 5 times. The number of possible outcome is

    A. 32   B. 25   C. 10   D. 5

20. If $^nC_2 = {}^nC_3$, then n =?

    A. 3   B. 4   C. 5   D. 6

21. The value of $^{21}C_{19}$ is

    A. 42   B. 210   C. 420   D. 2119

22. At a school, a meal consists of a main dish, a side dish and a dessert. There are 3 main dishes, 4 side dishes and 7 desserts to choose from. How many different meals are possible?

    A. 14   B. 36   C. 45   D. 84