DPP
DAILY PRACTICE PROBLEMS

CLASS : XIth   **SUBJECT : MATHS**

DATE :   **DPP NO. :7**

Topic :-PERMUTATIONS AND COMBINATIONS

1. There are n straight lines in a plane, no two of which are parallel and no three pass through the same point. Their points of intersection are joined. Then, the number of fresh lines thus obtained is

     a) $\frac{n(n-1)(n-2)}{8}$

     b) $\frac{n(n-1)(n-2)(n-3)}{6}$

     c) $\frac{n(n-1)(n-2)(n-3)}{8}$

     d) None of the above

2. A total number of wards which can be formed out the letters a, b, c, d, e, f taken 3 together such that each word contains at least one vowel, is

     a) 72   b) 48   c) 96   d) None of these

3. The number of positive odd divisors of 216 is

     a) 4   b) 6   c) 8   d) 12

4. The exponent of 3 in 100 !, is

     a) 33   b) 44   c) 48   d) 52

5. How many numbers lying between 10 and 1000 can be formed from the digits 1, 2, 3, 4, 5, 6, 7, 8, 9 (repetition of digits is allowed)?

     a) 1024   b) 810   c) 2346   d) None of these

6. If $^{56}P_{r+6}:^{54}P_{r+3} = 30800 :1$, then the value of r is

     a) 40   b) 41   c) 42   d) None of these

7. How many numbers greater than 24000 can be formed by using the digits 1,2,3,4,5 when no digit is repeated , is

     a) 36   b) 60   c) 84   d) 120

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

     a) 19   b) 158   c) 185   d) 201

9. The sum of all five digit numbers that can be formed using the digits 1, 2, 3, 4, 5 when repetition of digits is not allowed, is

     a) 366000   b) 660000   c) 360000   d) 3999960

10. Eight different letters of an alphabet are given. Words of four letters from these are formed. The number of such words with at least one letter repeated is

a) $\binom{8}{4} - {}^8P_4$ b) $8^4 + \binom{8}{4}$ c) $8^4 - {}^8P_4$ d) $8^4 - \binom{8}{4}$

11. The number of signals that can be sent using 5 flags of different colours, taking one or more at a time, is

a) 300   b) 225   c) 450   d) 325

12. The number of different permutations of the word 'BANANA' is

a) 6   b) 36   c) 30   d) 60

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

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

14. The number of permutations of the letters of the word 'CONSEQUENCE' in which all the three E's are together, is

a) $9!3!$ b) $\frac{9!}{2!2!}$ c) $\frac{9!}{2!2!3!}$ d) $\frac{9!}{2!3!}$

15. Sita has 5 coins each of the different denomination. The number different sums of money she can form is

a) 32   b) 25   c) 31   d) None of these

16. The number of ways of dividing 52 cards amongst four players so that three players have 17 cards each and the fourth players just one card, is

a) $\frac{52!}{(17!)^3}$ b) $52!$ c) $\frac{52!}{17!}$ d) None of these

17. The total number of seven-digit numbers the sum of whose digits is even is

a) 9000000   b) 4500000   c) 8100000   d) None of these

18. How many different committees of 5 can be formed from 6 men and 4 women on which exact 3 men and 2 women serve?

a) 6   b) 20   c) 60   d) 120

19. The number of ways can 10 letters be placed in 10 marked envelopes, so that no letter is in the right envelope are

a) $10!\left(1 - \frac{1}{1!} + \frac{1}{2!} - \frac{1}{3!} + \ldots + \frac{1}{10!}\right)$ b) $10!\left(1 + \frac{1}{1!} - \frac{1}{2!} + \frac{1}{3!} - \ldots - \frac{1}{10!}\right)$

c) $\left\{1 + \frac{1}{1!} - \frac{1}{2!} + \frac{1}{3!} - \ldots - \frac{1}{10!}\right\}$ d) $9!\left\{1 + \frac{1}{1!} - \frac{1}{2!} + \frac{1}{3!} - \ldots - \frac{1}{10!}\right\}$

20. If the letters of the word KRISNA are arranged in all possible ways and these words are written out as in a dictionary, then the rank of the word KRISNA is

a) 324   b) 341   c) 359   d) None of these