DPP
DAILY PRACTICE PROBLEMS

CLASS : XIth **SUBJECT : MATHS**
DATE : **DPP NO. :10**

Topic :-PERMUTATIONS AND COMBINATIONS

1. All the words that can be formed using alphabets A, H, L, U, R are written as in a dictionary (no alphabet is replaced). Then, the rank of the word RAHUL is
a) 70 b) 71 c) 72 d) 74

2. The number of natural numbers smaller than 10^4, in the decimal notation of which all the digit are different is
a) 5274 b) 5265 c) 4676 d) None of these

3. A code word consists of three letters of the English alphabet followed by two digits of the decimal system. If neither letter nor digit is repeated in any code word, then the total number of code words is
a) 1404000 b) 16848000 c) 2808000 d) None of these

4. The number of 5 digits numbers of the from $abcba$ in which $a < b$, is
a) 320 b) 340 c) 360 d) 380

5. If eleven member of a committee sit at a round table so that the President and Secretary always sit together, then the number of arrangements is
a) $10! \times 2$b) $10!$c) $9! \times 2$d) None of these

6. The number of numbers that can be formed by using digits 1,2,3,4,3,2,1 so that odd digits always occupy odd places
a) 3!4! b) 34 c) 18 d) 12

7. If the letters of the word MOTHER are written in all possible orders and these words are written out as in a dictionary then the rank of the word MOTHER is
a) 240 b) 261 c) 308 d) 309

8. Consider the following statement:
1.The number of ways of arranging m different things taken all at a time in which $p \leq m$ perticular things are never together is $m! - (m - p + 1)!p!$
2. A pack of 52 cards can be divided equally among four players in order in $\frac{52!}{(13!)^4}$ ways
Which of these is/are correct?
a) Only (1) b) Only (2) c) Both of these d) None of these

9. If N is the number of positive integral solution of $x_1x_2x_3x_4 = 770$, then the value of N is

a) 250 b) 252 c) 254 d) 256

10. If a man and his wife enter in a bus, in which five seats are vacant, then the number of different ways in which they can be seated, is

a) 2 b) 5 c) 20 d) 40

11. A lady gives a dinner party to 5 guests to be selected from nine friends. The number of ways of forming the party of 5, given that two of the friends will not attend the party together is

a) 56 b) 126 c) 91 d) None of these

12. These are n distinct points on the circumference of a circle. The number of pentagons that can be formed with these points as vertices is equal to the number of possible triangles. Then, the value of n is

a) 7 b) 8 c) 15 d) 30

13. Four dice are rolled. The number of possible outcomes in which at least one dice shows 2 is

a) 625 b) 671 c) 1023 d) 1296

14. From 12 books, the difference between number of ways a selection of 5 books when one specified book is always excluded and one specified book is always included, is

a) 64 b) 118 c) 132 d) 330

15. There are n different books and m copies of each in a college library. The number of ways in which a student can make a selection of one or more books is

a) $(m+1)^n$ b) $\frac{(mn)!}{(m!)^n}$ c) ${}^{mn}C_n \times {}^{n}C_1$ d) $(m+1)^n - 1$

16. The number of words which can be made out of the letters of the word "MOBILE" when consonants always occupy odd places, is

a) 20 b) 36 c) 30 d) 720

17. There are n seats round a table numbered 1,2,3,...,n.The number of ways in which $m(\leq n)$ persons can take seat is

a) ${}^{n}C_m$ b) ${}^{n}C_m \times m\,!$ c) $(m-1)\,!$ d) $(m-1)\,! \times (n-1)\,!$

18. The maximum number of points of intersection of 8 circles is

a) 16 b) 24 c) 28 d) 56

19. A lady gives a dinner party for six guests. The number of ways in which they may be selected from among ten friends, if two of the friends will not attent the party together, is

a) 112 b) 140 c) 164 d) None of these

20. The total number of arrangements which can be made out of the letters of the word 'Algebra', without altering the relative position of vowels and consonants is

a) $\frac{7\,!}{2\,!}$ b) $\frac{7\,!}{2\,!5\,!}$ c) $4\,!3\,!$ d) $\frac{4\,!3\,!}{2}$