

Class - XI

MATHEMATICS

F.M-45

Topic-Permutation and Combination

P.M- 30

Time -1 Hours

Date-28.10. 13

1. How many 2 digit even numbers can be formed from the digits 1, 2, 3, 4, 5 if the digits can be repeated?
2. Find the number of different signals that can be generated by arranging at least 2 flags in order (one below the other) on a vertical staff, if five different flags are available.
3. How many 3- digit even numbers can be formed from the digits 1, 2, 3, 4, 5, 6 if the digits can be repeated?
4. How many 5 – digit telephone numbers can be constructed using the digits 0 to 9 if each number starts with 67 and no digit appears more than once?
5. Given 5 flags of different colours, how many different signals can be generated if each signal requires the use of 2 flags, one below the other?
6. Computer (i) $\frac{7!}{5!}$ (ii) $\frac{!2!}{(10!)(2!)}$
7. If $\frac{1}{8!} + \frac{1}{9!} = \frac{x}{10!}$, find x .
8. Evaluate compute $\frac{8!}{6 \times 2!}$.
9. Evaluate compute $\frac{1}{6!} + \frac{1}{7!} = \frac{x}{8!}$, find x
10. How many 4-digit number can be formed by using the digits 1 to 9 if repetition of digits is not allowed?
11. Find the value of n such that

(i) ${}^nP_5 = 42 \cdot {}^nP_3, n > 4$

(ii) $\frac{{}^nP_4}{{}^{n-1}P_4} = \frac{5}{3}, n > 4$
12. Find r , if ${}^5P_r = 6 \cdot {}^5P_{r-1}$.
13. How many words, with or without meaning, can be formed using all the letters of the word EQUATION, using each letter exactly once?
14. If ${}^nC_9 = {}^nC_8$, find ${}^nC_{17}$.
15. A bag contains 5 black and 6 red balls. Determine the number of ways in which 2 black and 3 red balls can be selected.