THE VILLAGE INTERNATIONAL SCHOOL

RECAP ACTIVITY – PERMUTATIONS AND COMBINATIONS

1. Evaluate (i) 5 ! (ii) 7 ! (iii) 7 ! – 5!
2. Compute(1) $\frac{7!}{5!}$ (2) $\frac{12!}{10!\ \ 2!}$
3. Compute $\frac{8!}{6!\times 2!}$
4. Express the following in factorial notation. (i) 6 × 7 × 8 × 9
   (ii) 4 × 5 × 6 × 7 × 8
5. How many 3-digit numbers can be formed from the digits 1, 2, 3, 4 and 5 assuming that
   (i) repetition of the digits is allowed?
   (ii) repetition of the digits is not allowed?
6. How many 3-digit even numbers can be formed from the digits 1, 2, 3, 4, 5, 6 if the digits can be repeated?
7. How many 4-letter code can be formed using the first 10 letters of the English alphabet, if no letter can be repeated?
8. .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?
9. Find the value of n such that
   ${}^{n}P_4 = 20\ {}^{n}P_2$, n > 3
   How many 3-digit numbers can be formed by using the digits 1 to 9 if no digit is repeated? 2. How many 4-digit numbers are there with no digit repeated? 3. How many 3-digit even numbers can be made using the digits 1, 2, 3, 4, 6, 7, if no digit is repeated? 4. Find the

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number of 4-digit numbers that can be formed using the digits 1, 2, 3, 4, 5 if no digit is repeated. How many of these will be even? 5. From a committee of 8 persons, in how many ways can we choose a chairman and a vice chairman assuming one person can not hold more than one position?

10. If nC8 = nC2 , find nC2 .
11. In how many ways can a team of 3 boys and 3 girls be selected from 5 boys and 4 girls?
12. Find the number of ways of selecting 9 balls from 6 red balls, 5 white balls and 5 blue balls if each selection consists of 3 balls of each colour.
13. Determine the number of 5 card combinations out of a deck of 52 cards if there is exactly one ace in each combination

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