MATHS

BOOKS - JEEVITH PUBLICATIONS MATHS (KANNADA ENGLISH)

PERMUTATIONS AND COMBINATIONS

2 3 Marks Questions With Answers

1. Find the number of 4 letter words with or without meaning, which can be formed out of

the letters of the word 'FATE' where the repetition of the letter is not allowed.

▶ **Watch Video Solution**

2. How many 3 digit odd numbers can be formed by using the digits 1, 2, 3, 4, 5, 6 when the repetition of the digits is not allowed ?

▶ **Watch Video Solution**

3. How many numbers are there between 100 and 1000 such that every digit is either 3 or 5.

▶ Watch Video Solution

4. In a class there are 10 boys and 20 girls. The class teacher wants to select 1 boy and 1 girl to represent the class in a function. In how many can the teacher make this selection ?

▶ Watch Video Solution

5. How many 3-digit numbers can be formed from the digits 1, 2, 3, 4 and 5 assuming that repetition of the digits is allowed ?

▶ **Watch Video Solution**

6. How many 3-digit numbers can be formed from the digits 1, 2, 3, 4 and 5 assuming that repetition of the digits is not allowed ?

▶ **Watch Video Solution**

7. How many 4 - letter code can be formed using the first 10 letters of the English alphabet, if no letter can be repeated ?

▶ **Watch Video Solution**

8. A coin is tossed 3 times and the outcomes are recorded. How many possible outcomes are there?

▶ **Watch Video Solution**

9. 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. How many 3 - digit numbers can be formed by using the digits 1 to 9 if no digit is repeated ?

11. How many 4 - digit numbers are there with no digit repeated ?

12. Find the number of 4 - digit numbers that can be formed by using the digits 1, 2, 3, 4, 5 if no digit is repeated. How many of these will be even ?

13. Find r if $.^5 P_r = 2.^6 P_{r-1}$

14. Find r if $.^5 P_r = .^6 P_{r-1}$

15. In how many ways the letters of the word 'POWER' can be arranged ?

16. How many words can be formed using the letters of the word EQUATION so that all the vowels are together.

▶ **Watch Video Solution**

17. In how many ways 4 boys and 6 girls be seated in a line so that no two boys may sit together ?

▶ **Watch Video Solution**

18. How many words, with or without meaning can be made from the letters of the word MONDAY, assuming that no letter is repeated, if.

(i) 4 leters are used at a time,

(ii) all letters are used at a time

(iii) all letters are used but first letter is a vowel ?

▶ **Watch Video Solution**

19. In how many ways can the letters of the word PERMUTATIONS be arranged if the words start with P and end with S,

20. In how many ways can the letters of the word 'PERMUTATIONS ' be arranged if the vowels are all together?

21. How many 6 - digit numbers can be formed the digits 0, 1, 3, 5, 7 and 9 which are divisible by 10 and no digit is repeated ?

▶ Watch Video Solution

22. It is required to seat 5 mean and 4 women in a row so that the women occupy the even places. How many such arrangements are possible ?

▶ Watch Video Solution

23. In how many of distinct permutations of the letters in the word MISSISSIPPI do the 4 I's not some together?

24. Find the number of arrangements of the letters of the word INDEPENDENCE. How many of these start with P.

25. Find n if $.^n C_9 = .^n C_5$.

26. A group consists of 5 girls and 6 boys. In how many ways can a team of 4 members be selected if the team has no girl ?

27. In how many ways can a team of 3 boys and 3 girls be selected from 5 boys and 4 girls ?

▶ Watch Video Solution

28. 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.

▶ Watch Video Solution

29. In how many ways can a student choose a programme of 5 course if 9 courses are available and 2 courses are compulsory for every student ?

30. A committee of 7 has to be formed 9 boys and 4 girls. In how many ways can this be done when the committee consists of :

exactly 3 girls ?

31. A committee of 7 has to be formed 9 boys and 4 girls. In how many ways can this be done when the committee consists of :

atleast 3 girls ?

▶ **Watch Video Solution**

32. A committee of 7 has to be formed 9 boys and 4 girls. In how many ways can this be done

when the committee consists of :

atmost 3 girls ?

33. An examination paper consists of 12 questions diyided in to part A and B. Part A contains 7 questions and part B contains 5 questions. A candidate is required to attempt 8 questions, selecting atleat 3 questions from each part. In how many ways can the candidate select the questions ?

34. Find the number of diagonals of a regular hexagon.

35. Find the number of ways of dividing 15 things in to groups of 8, 4 and 3 respectively.

36. How many words with or without meaning each of 3 vowels and 2 consonants can be formed from the letters of the word INVOLUTE.