PERMUTATION & COMBINATION-I

Permutation & Combination

- Fundamental concept of counting
- Arrangement of letters and numbers
- Special cases of arrangement (cases with 0, multiple of a given number)
- Combination based Problems
- Relationship and difference between permutation and combination

PERMUTATION AND COMBINATION-I

25 buses are running between two places Punjab and Haryana.
In how many ways can Sunil go from Punjab to Haryana and return by a different bus?

A) 600
B) 625
C) 576
D) None of these

PERMUTATION AND COMBINATION-I

There are three places P, Q and R such that 3 roads connects P and Q and 4 roads connects Q and R. In how many ways can one travel from P to R?

A) 8
B) 10
C) 12
D) 14

PERMUTATION AND COMBINATION-I

There are 10 women and 15 men in coffee shop. In how many ways can a person can be selected?

A) 25
B) 30
C) 15
D) 50

PERMUTATION AND COMBINATION-I

Find the number of ways a batsman can score a double century only in terms of 4's & 6's both?

A) 34
B) 16
C) 14
D) 17

PERMUTATION AND COMBINATION-I

In how many different ways can the letters of the word 'RUMOUR' be arranged?

A) 180
B) 360
C) 540
D) 620

PERMUTATION AND COMBINATION-I

In how many ways can you rearrange the word ‘JUMBLE’ such that the rearranged word starts with a vowel?

A) 120
B) 240
C) 360
D) 60

PERMUTATION AND COMBINATION-I

How many different words can be formed with the letters of the word ‘FAMILY’ when vowels occupy even places?

A) 18
B) 36
C) 72
D) 144

PERMUTATION AND COMBINATION-I

In how many different ways can the letters of the word 'BANKING' be arranged so that the vowels always come together?

A) 220
B) 260
C) 450
D) 720

PERMUTATION AND COMBINATION-I

In how many different ways can the letters of the word ‘AUCTION’ be arranged in such a way that the vowels do not come together?

A) 4464
B) 5547
C) 1650
D) 5765

PERMUTATION AND COMBINATION-I

How many two digit numbers can be generated using the digits 1,2,3,4 without repeating any digit?

A) 10
B) 12
C) 4
D) 16

PERMUTATION AND COMBINATION-I

How many three digit numbers can be generated using the digits 1,2,3,4 and 5 divisible by 4 without repeating any digit?

A) 30
B) 12
C) 20
D) 24

PERMUTATION AND COMBINATION-I

Find the sum of all the 4 digit numbers that can be formed with the digits 3, 4, 5 and 6?

A) 119988
B) 11988
C) 191988
D) None of these

PERMUTATION AND COMBINATION-I

Find the sum of all the 4 digit numbers that can be formed with the digits 3, 4, 4 and 2?

A) 43339
B) 43999
C) 43329
D) None of these

PERMUTATION AND COMBINATION-I

In how many ways can 10 books be arranged on a shelf such that a particular pair of books should always be together?

A) $9! \times 2!$
B) $9!$
C) $10!$
D) $10! \times 2!$

PERMUTATION AND COMBINATION-I

How many four digits numbers can be formed with the digits 0, 1, 2, 3, 4, 5, 6 and 7; digits being used more than once?

A) 4000
B) 4220
C) 3584
D) 2100

PERMUTATION AND COMBINATION-I

How many numbers of four digits greater than 2,400 can be formed with digits 0, 1, 2, 3, 4, 5 & 6; no digit being repeated in any number?

A) 140
B) 480
C) 540
D) 1120

PERMUTATION AND COMBINATION-I

In how many ways can a team of 5 persons be formed out of a total of 10 persons such that two particular persons should not be included in any team?

A) 112
B) 128
C) 56
D) 28

PERMUTATION AND COMBINATION-I

From a group of 6 boys and 4 girls, 4 children are to be selected. In how many different ways can they be selected such that at least one boy should be there?

A) 209
B) 150
C) 501
D) 250

PERMUTATION AND COMBINATION-I

In a box, there are 5 black pens, 3 white pens and 4 red pens. In how many ways can 2 black pens, 2 white pens and 2 red pens can be chosen?

A) 220
B) 180
C) 420
D) 500

PERMUTATION AND COMBINATION-I

In how many ways a committee, consisting of 5 men and 6 women can be formed from 8 men and 10 women?

A) 61300
B) 9810
C) 23500
D) 11760

PERMUTATION AND COMBINATION-I

In how many ways can a team of 3 members be formed from 3 teachers, 2 doctors and 3 accountants if at least 1 teacher must be included?

A) 39
B) 46
C) 52
D) None

PERMUTATION AND COMBINATION-I

In Jalandhar locality, there are ten houses in a row. On a particular night a thief planned to steal from three houses of the locality. In how many ways can he plan such that no two of them are next to each other?

A) 64
B) 24
C) 23
D) 56

PERMUTATION AND COMBINATION-I

Out of 7 consonants and 4 vowels, how many words of 3 consonants and 2 vowels can be formed?

A) 320
B) 450
C) 25200
D) 15920

PERMUTATION AND COMBINATION-I

A team of 9 students goes on an excursion, in two cars, of which there are 5 and 4 seats respectively in cars. In how many ways can they sit in these 2 cars?

A) 9!
B) 5!*4!
C) 126*9!
D) 126*5!*4!

PERMUTATION AND COMBINATION-I

Nine chairs are numbered 1 to 9. Three women and four men wish to occupy one chair each. First the women chose the chairs from amongst the chair marked 1 to 5; and then the men select the chairs from amongst the remaining. The number of possible arrangements is

A) ${}^5C_3 \times {}^4C_2$
B) ${}^5C_2 \times {}^4P_3$
C) ${}^5C_3 \times {}^6C_4$
D) None of these

Any Doubts???