INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet for the Academic Year 2025-26

CLASS:11   SUBJECT: Mathematics   DATE: 5/07/25

LESSON : Permutations and Combinations

LEVEL : 1

1. Evaluate: $9! - 6!$

   [a) 362160   b) 604800   c) 3628800   d) 49830]

2. If $^nC_{10} = {}^nC_9$, then $^nC_{19}$ is

   [a) 1   b) 2   c) 0   d) 3]

3. Find the number of four digit numbers that can be formed with the digits 2, 3, 4. 6 , 7and 9, without repetition

4. Find the number of arrangement that can be possible by taking 4 letters of the word

   CONSIDER

LEVEL : 2

1. Find n , if $^nP_5 = 42$

   [a) 10   b) 15   c) 12   d) 20]

2. The number of ways of choosing a face card from a pack of 52 playing cards is

   [a) 495   b) 493   c) 490   d) 492]

3. Find the number of ways of choosing 4 cards of same colour from a pack of 52 cards.

4. How many 3-digit number can be formed **without using** digits 1, 2, 3, 9, 5 if repetition of digits is not allowed ? (Ans. 48)

5. How many 4- digits numbers are there, with distinct digits, with each digit odd?

6. In how many ways the letters of the word HOSPITAL be arranged so that

   (a) the vowels come together?   (b) the vowels never come together   (c) the vowels

   occupy only the odd places?

7. Evaluate n, if P(15, n – 1) : P (16, n – 2) = 3:4 (Ans 14)

8. Children are to be seated on a bench
(i) In how many ways can the children be seated? (8! = 40320)
(ii) How many arrangements are possible if the youngest child sits at the left hand end of the bench?

LEVEL : 3

1. Find n, if $^nP_4/{}^{n-1}P_4 = 5/3$

[a) 11   b) 10   c) 12   d) 13]

2. The number of diagonals of a polygon of 30 sides is

  [a) 225   b) 350   c) 405   d) 210]

3. In how many ways can a cricket 11 be chosen out of a batch of 15 players if

    (a) there is no restriction on the selection   (b) a particular player is always chosen

    (c) a particular player is never chosen?

4. How many different numbers greater than 50000 can be formed with the digits 0,1,3,5,9?

5. How many different words can be formed by using all the letters of the word DIFFERENTIATE

    (a) in how many of them vowels occupy together?

    (b) in how many of them both E do not come together?

6. How many numbers are there between 100 and 1000 such that 5 is in the unit place?

(Ans 90)

7. If $^{n+2}C_8 : {}^{n-2}C_4 + 57 : 16$, find n (n = 19)