INTERNATIONAL INDIAN SCHOOL BURAIDAH

CLASS – 11 – WS- 06 (2022 – 2023)

MATHEMATICS

Permutations and Combinations

1. Find the number of 2-digit numbers formed by using 1, 2 and 3 if the repetition is allowed
2. How many 4 – letter words, with or without meaning, can be formed out of the letters of the word , **COMPUTER,** if repetition of letters is not allowed?
3. How many 4- digits numbers are there, with distinct digits, with each digit odd?
4. In how many ways the letters of the word **PENCIL** be arranged so that a) N is always next to E ? b) N and E are always together?
5. In how many ways can 9 examination papers be arranged so that the best and the worst papers are never together?
6. Find the number of ways in which 5 boys and 5 girls are seated in a row so that,
   (a) No two girls may sit together (b) all the girls sit together and all the boys sit together
   (c) all the girls are never together.
7. 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?
8. How many words can be made from the letters in the word **THURSDAY** assuming that no Letter is repeated, if (a) 4 letters are used at a time? (b) all letters are used at a time? (c) all letters are used but first is vowel?
9. How many words can be formed using the letter A thrice, the letter B twice and the letter C thrice?
10. How many different words can be formed by using all the letters of the word HYPOTHESIS
    (a) in how many of them vowels occupy the even positions?

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

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

Combinations

12. Three gentlemen and three ladies are candidates for two vacancies. A voter has to vote for two candidates. In how many ways can one cast his vote?

13. If there are 12 persons in a party, and if each 2 of them shake hands with each other how many handshakes happen in the party ?

14. 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?

15. A committee of 12 is to be formed from 9 women and 8 men. In how many ways this can be done if at least 5 women have to be included in a committee. In how many of these committee (a) The women are in majority , (b) The men are in majority

26. How many triangles can be formed by joining the vertices of hexagon.