ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

FOR GOD AND COUNTRY

Solutions of Worksheet-23

SUBJECT – MATHEMATICS

2nd-term

Chapter: Algebra **Class: XI**

Topic: Combinations **Date: 17 .11.2020**

Choose the correct option (1 X 15= 15)

1. In how many ways can 8 Indians and, 4 American and 4 Englishmen can be seated in a row so that all person of the same nationality sit together?

A. ● 3! 4! 8! 4!

B. ○ 3! 8!

C. ○ 4! 4!

D. ○ 8! 4! 4!

2. How many Permutations of the letters of the word APPLE are there?

A. ○ 600

B. ○ 120

C. ○ 240

D. ● 60

3. How many different words can be formed using all the letters of the word ALLAHABAD?
(a) When vowels occupy the even positions.
(b) Both L do not occur together.

A. ○ 7560,60,1680

B. ○ 7890,120,650

C. ○ 7650,200,4444

D. ● None of these

4. In how many ways can 10 examination papers be arranged so that the best and the worst papers never come together?

A. ● 8 × 9!

B. ○ 8 × 8!

C. ○ 7 × 9!

D. ○ 9 × 8!

5. In how many ways 4 boys and 3 girls can be seated in a row so that they are alternate.

A. ● 144

B. ○ 288

C. ○ 12

D. ○ 256

6. A two member committee comprising of one male and one female member is to be constitute out of five males and three females. Amongst the females. Ms. A refuses to be a member of the committee in which Mr. B is taken as the member. In how many different ways can the committee be constituted ?

A. ○ 11

B. ○ 12

C. ○ 13

D. ● 14

7. In how many ways 2 students can be chosen from the class of 20 students?

A. ● 190

B. ○ 180

C. ○ 240

D. ○ 390

8. 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?

A. ○ 9

B. ○ 30

C. ○ 36

D. ● 15

9. A question paper has two parts, A and B, each containing 10 questions. If a student has to choose 8 from part A and 5 from part B, in how many ways can he choose the questions?

A. ● 11340

B. ○ 12750

C. ○ 40

D. ○ 320

10. Find the number of triangles which can be formed by joining the angular points of a polygon of 8 sides as vertices.

A. ● 56

B. ○ 24

C. ○ 16

D. ○ 8

11. There are 10 points in a plane out of which 4 are collinear. Find the number of triangles formed by the points as vertices.

A. ○ 120

B. ● 116

C. ○ 140

D. ○ 20

12. In a party every person shakes hands with every other person. If there are 105 hands shakes, find the number of person in the party.

A. ● 15

B. ○ 14

C. ○ 21

D. ○ 25

13. The number of positive integers which can be formed by using any number of digits from 0, 1, 2, 3, 4, 5 without repetition.

A. ○ 1200

B. ○ 1500

C. ○ 1600

D. ● 1630

14. In the next World cup of cricket there will be 12 teams, divided equally in two groups. Teams of each group will play a match against each other. From each group 3 top teams will qualify for the next round. In this round each team will play against each others once. Four top teams of this round will qualify for the semifinal round, where they play the best of three matches. The Minimum number of matches in the next World cup will be:

A. ○ 54

B. ● 53

C. ○ 38

D. ○ 43

15. There are 10 person among whom two are brother. The total number of ways in which these persons can be seated around a round table so that exactly one person sit between the brothers , is equal to:

A. 7! × 2!

B. 2! × 8!

C. 3! × 7!

D. 3! × 8!

Prepared by :-
SUKUMAR MANDAL (SkM).