ASSIGNMENT

PROBABILITY

Class -XI

1. If a leap year is selected at random ,what is the chance that it will contain 53 Tuesdays?

2. If 12 persons are seated at round table ,what is the probability that two particular persons sit together?

3. from a group of 7 men and 4 ladies a committee of 6 persons is formed. What is the probability that the committee will consists of exactly 2 ladies?

4. A box contains 3 white , 4 red and 5 blue balls. If three balls are drawn at random, find the probability that

   (i) all of them are white (ii) exactly one is white (iii) each ball is of different colour.

5. what is the probability of getting a total of less than 12 in throw of two dice?

6. Three dice are thrown together. Find the probability of getting a total of at least 6.

7. In a lottery of 50 tickets numbered 1 to 50, two tickets are drawn simultaneously. Find the probability that:

   (i) both the tickets drawn have prime number,

   (ii)none of the tickets drawn has prime number

   (iii)one tickets has prime number.

8. A word is consists of 9 letters; 5 consonants and 4 vowels. Three letters are chosen at random. What is the probability that more than one vowel will be selected ?

9. Four persons are to be chosen at random from a group of 3 men, 2 women and 4 children . Find the probability of selecting :

(i) 1 man,1 woman and 2 children (ii) exactly two children

10. Twelve balls are distributed among three boxes, find the probability that the first box will contain three balls.

11. In a single throw of three dice, determine the probability of getting

(i) a total of 5 (ii) a total of at most 5 (iii) a total of at least 5.

12. In a lot of 12 microwave ovens, there are 3 defective units. A person has ordered 4 of these units and since each is identically packed, the selection will be random. what is the probability that

(i) all 4units are good (ii) exactly 3 units are good (iii) at least 2 units are good.

13. A five digit number is formed by 1,2,3,4,5 without repetition. find the probability that the number is divisible by 4.

14. The letters of the word 'FORTUNATES' are arranged at random in a row. What is the chance that the two ' T ' come together.

15. A class consists of 10 boys and 8 girls. Three students are selected at random. What is the probability that the selected group has

(i) 1 boy and two girls?

(ii) At least one girl?

(iii) At most one girl?

Answer Key

1. $\frac{2}{7}$ 2. $\frac{2}{11}$ 3. $\frac{5}{11}$ 4.(i) $\frac{1}{220}$ (ii). $\frac{27}{55}$ (iii) $\frac{3}{11}$

5. $\frac{35}{36}$ 6. $\frac{103}{108}$ 7.(i) $\frac{21}{245}$ (ii). $\frac{17}{35}$ (iii) $\frac{3}{7}$ 8. $\frac{17}{42}$ 9.(i) $\frac{2}{7}$ (ii). $\frac{10}{21}$

10. $\frac{12_{C_3} \times 2^9}{3^{12}}$ 11.(i) $\frac{1}{36}$ (ii). $\frac{5}{108}$ (iii) $\frac{53}{54}$ 12.(i) $\frac{14}{55}$ (ii). $\frac{28}{55}$ (iii) $\frac{54}{55}$

13. $\frac{1}{5}$ 14. $\frac{1}{5}$ 15. (i) $\frac{35}{102}$ (ii). $\frac{29}{34}$ (iii) $\frac{10}{17}$