DPP
DAILY PRACTICE PROBLEMS

CLASS : XIth   SUBJECT : MATHS
DATE :   DPP NO. :7

Topic :-PROBABILITY

1. A person puts three cards addresses to three different people in three envelopes with three different addresses without looking. What is the probability that the cards go into their respective envelopes?

     a) $\frac{2}{3}$ b) $\frac{1}{6}$ c) $\frac{1}{5}$ d) $\frac{2}{5}$

2. The probability that A speaks truth is $\frac{4}{5}$ while this probability for B is $\frac{3}{4}$. The probability that they contradict each other when asked to speak on a fact, is

     a) $\frac{3}{20}$ b) $\frac{1}{5}$ c) $\frac{7}{20}$ d) $\frac{4}{5}$

3. A box contains 100 tickets numbered 1,2,…,100. Two tickets are choosen at random. It is given that the maximum number on the two choosen tickets is not more than 10. The probability that the minimum number is 5 is

     a) 13/15   b) 1/330   c) 1/3   d) 1/9

4. Three identical dice are rolled. The probability that the same number will appear on each of them, is

     a) 1/6   b) 1/36   c) 1/18   d) 3/28

5. For $k = 1,2,3$ the box B_k contains k red balls and $(k + 1)$ white balls, Let $P(B_1) = \frac{1}{2}, P(B_2) = \frac{1}{3}$ and $P(B_3) = \frac{1}{6}$

A box is selected at random and a ball is drawn from it. If a red ball is drawn, then the probability that it has come from box B_2, is

     a) $\frac{35}{78}$ b) $\frac{14}{39}$ c) $\frac{10}{13}$ d) $\frac{12}{13}$

6. Two persons each makes a single throw with a pair of dice. The probability that the throws are unequal is given by

     a) $1/6^3$ b) $73/6^3$ c) $51/6^3$ d) None of these

7. Two cards are drawn at random from a pack of 52 cards. The probability of getting at least a spade and an ace is

     a) 1/34   b) 8/221   c) 1/26   d) 2/51

8. A bag contain 5 black balls, 4 white balls and 3 red balls. If a ball is selected randomly, the probability that it is a black or red ball, is

    a) 1/3   b) 1/4   c) 5/12   d) 2/3

9. Of a total of 600 bolts, 20% are too large and 10% are too small. The remainder areconsidered to be suitable. If a bolt is selected at random, the probability that it will be suitable is

    a) $\frac{1}{5}$ b) $\frac{7}{10}$ c) $\frac{1}{10}$ d) $\frac{3}{10}$

10. Probability that a student will succeed in I.I.T. entrance test is 0.2 and that he will succeed in Roorkee entrance test is 0.5. If the probability that he will successful at both the places is 0.3, then the probability that he does not succeed at both the places is

    a) 0.4   b) 0.3   c) 0.2   d) 0.6

11. If A and B each toss three coins. The probability that both get the same number of heads is

    a) $\frac{1}{9}$ b) $\frac{3}{16}$ c) $\frac{5}{16}$ d) $\frac{3}{8}$

12. An unbiased die is tossed until a number greater than 4 appears. The probability that an even number of tosses needed, is

    a) $\frac{1}{2}$ b) $\frac{2}{5}$ c) $\frac{1}{5}$ d) $\frac{2}{3}$

13. One Indian and four American men and their wifes are to be seated randomly around a circular table. Then the conditional probability that the Indian man is seated adjacent to his wife given that each American man is seated adjacent to his wife, is

    a) $\frac{1}{2}$ b) $\frac{1}{3}$ c) $\frac{2}{5}$ d) $\frac{1}{5}$

14. An almirah stores 5 black and 4 white socks well mixed. A boy pull out 2 socks at random. The probability that 2 are of the same colour is

    a) 4/9   b) 5/8   c) 5/9   d) 7/12

15. A pack of plying cards was found to contain only 51 cards. If the first 13 cards which are examined are all red, then the probability that the missing cards is black, is

    a) $\frac{1}{3}$ b) $\frac{2}{3}$ c) $\frac{1}{2}$ d) $\frac{^{25}C_{13}}{^{51}C_{13}}$

16. In order to get at least once a head with probability ≥ 0.9, the number of times a coin needs to be tossed is

    a) 3   b) 4   c) 5   d) None of these

17. Three letters are written to there different persons and addresses on the three envelopes are also written. Without looking at the addresses, the letters are kept in these envelopes. The probability that all the letters are not placed into their right envelopes is

    a) $\frac{1}{2}$ b) $\frac{1}{3}$ c) $\frac{1}{6}$ d) $\frac{5}{6}$

18. Suppose $f(x) = x^3 + ax^2 + bx + c$, where a,b,c are chosen respectively by throwing a dice three times. Then, the probability that $f(x)$ is an increasing function, is

a) $\frac{4}{9}$ b) $\frac{3}{8}$ c) $\frac{2}{5}$ d) $\frac{16}{34}$

19. A sample of a 4 times is drawn at a random without replacement from a lot of 10 items containing 3 defectives. If x denotes the number of defective items in the sample, then $P(0 < x < 3)$ is equal to

a) $\frac{3}{10}$ b) $\frac{4}{5}$ c) $\frac{1}{2}$ d) $\frac{1}{6}$

20. The mean and variance of a random variable X having a binomial distribution are 4 and 2 respectively. Then, $P(X > 6)$ is equal to

a) $\frac{1}{256}$ b) $\frac{3}{256}$ c) $\frac{9}{256}$ d) $\frac{7}{256}$