DPP
DAILY PRACTICE PROBLEMS

CLASS : XIIth **SUBJECT : MATHS**
DATE : **DPP NO. : 1**

Topic :- PROBABILITY

1. If a party of n persons sit at a round table, then the odds against two specified individual sitting next to each other are
   a) $2:(n-3)$ b) $(n-3):2$ c) $(n-2):2$ d) $2:(n-2)$

2. The probability that a bulb produced by a factory will fuse after 150 days if used is 0.50. What is the probability that out of 5 such bulbs none will fuse after 150 days of use
   a) $1-(19/20)^5$ b) $(19/20)^2$ c) $(3/4)^5$ d) $90(1/4)^5$

3. A bag contains an assortment of blue and red balls. If two balls are drawn at random, the probability of drawing two red balls if five times the probability of drawing two blue balls. Furthermore, the probability of drawing one ball of each colour is six times the probability of drawing two blue balls. The number of red and blue balls in the bag is
   a) 6, 3 b) 3, 6 c) 2, 7 d) None of these

4. Two dices are rolled one after the other. The probability that the number on the first is smaller than the number on the second is
   a) $1/2$ b) $7/18$ c) $3/4$ d) $5/12$

5. A fair die is tossed repeatedly. A wins if it is 1 or 2 on two consecutive tosses and B wins if it is 3, 4, 5 or 6 on two consecutive tosses. The probability that A wins if the die is tossed indefinitely is
   a) $1/3$ b) $5/21$ c) $1/4$ d) $2/5$

6. Two numbers x and y are chosen at random (without replacement) from amongst the numbers 1, 2, 3, ..., 2004. The probability that x^3+y^3 is divisible by 3 is
   a) $1/3$ b) $2/3$ c) $1/6$ d) $1/4$

7. A pair of numbers is picked up randomly (without replacement) from the set {1,2, 3,5, 7, 11, 12, 13, 17, 19}. The probability that the number 11 was picked given that the sum of the numbers was even is nearly
   a) 0.1 b) 0.125 c) 0.24 d) 0.18

8. Cards are drawn one-by-one at random from a well-shuffled pack of 52 playing cards until 2 aces are obtained from the first time. The probability that 18 draws are required for this is
   a) $3/34$ b) $17/455$ c) $561/15925$ d) None of these

9. Two numbers a, b are chosen from the set of integers 1,2, 3, ..., 39. Then probability that the equation $7a-9b=0$ is satisfied is
   a) $1/247$ b) $2/247$ c) $4/741$ d) $5/741$

10. Words from the letters of the word PROBABILITY are formed by taking all letters at a time. The probability that both B's are not together and both I's are not together is
   a) $52/55$ b) $53/55$ c) $54/55$ d) None of these

11. Four numbers are multiplied together. Then, the probability that the product will be divisible by 5 or 10 is
a) 369/625 b) 399/625 c) 123/625 d) 133/625

12. 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) $\frac{1}{5}$

13. If p is the probability that a man aged x will die in a year, then the probability that out of n men $A_1, A_2, \dots A_n$ each aged x, A_1 will die in an year and be the first to die is
a) $1-(1-p)^n$ b) $(1-p)^n$ c) $1/n[1-(1-p)^n]$ d) $1/n(1-p)^n$

14. A hat contains a number of cards with 30% white on both sides, 50% black on one side and white on the other side, 20% black on both sides. The cards are mixed up, and a single card is drawn at random and placed on the table. Its upper side shows up black. The probability that its other side is also black is
a) 2/9 b) 4/9 c) 2/3 d) 2/7

15. A pair of four dice is thrown independently three times. The probability of getting a score of exactly 9 twice is
a) 8/9 b) 8/729 c) 8/243 d) 1/729

16. The numbers 1, 2, 3, … n are arrange in random order. The probability that the digits 1,2, 3, … , $k(k<n)$ appears as neighbours in that order is
a) $1/n!$ b) $k!/n!$ c) $(n-k)!\,n!$ d) $(n-k+1)!\,n!$

17. A and B toss a fair coin each simultaneously 50 times. The probability that both of them will not get tail at the same toss is
a) $(3/4)^{50}$ b) $(2/7)^{50}$ c) $(1/8)^{50}$ d) $(7/8)^{50}$

18. A fair coin is tossed 5 times, then the probability that no two consecutive heads occur is
a) 11/32 b) 15/32 c) 13/32 d) None of these

19. Three ships A, B and C sail from England to India. If the ratio of their arriving safely are 2:5, 3:7 and 6:11, respectively, then the probability of all the ships for arriving safely is
a) 18/595 b) 6/17 c) 3/10 d) 2/7

20. A drawer contains 5 brown socks and 4 blue socks well mixed. A man reaches the drawer and pulls out socks at random. What is the probability that they match?
a) 4/9 b) 5/8 c) 5/9 d) 7/12