DPP
DAILY PRACTICE PROBLEMS

CLASS : XIIth **SUBJECT : MATHS**
DATE : **DPP NO. : 2**

Topic :- PROBABILITY

1. Five different games are to be distributed among 4 children randomly. The probability that each child get atleast one game is
   a) 1/4 b) 16/64 c) 21/64 d) None of these

2. Let A be a set containing n elemnts. A subset P of the set A is chosen at random. The set A is reconstructed by replacing the elements of P, and another subset Q of A is chosen at random. The probability that $P \cap Q$ contains exactly $m(m < n)$ elements is
   a) $3^{n-m}/4^n$ b) ${}^nC_m \times 3^m/4^n$ c) ${}^nC_m \times 3^{n-m}/4^4$ d) None of these

3. A bag has 10 balls. Six balls are drawn in an attempt and replaced. Then another draw of 5 balls is made from the bag. The probability that exactly two balls are common to both the draw is
   a) 5/21 b) 2/21 c) 7/21 d) 3/21

4. If any four numbers are selected and they are multiplied, then the probability that the last digit will be 1, 3, 5 or 7 is
   a) 4/625 b) 18/625 c) 16/625 d) None of these

5. An experiment has 10 equally likely outcomes. Let A and B be two non-empty events of the experiment. If A consists of 4 outcomes, the number of outcomes that B must have so that A and B are independent, is
   a) 2,4 or 8 b) 3,6 or 9 c) 4 or 8 d) 5 or 10

6. The probability that in a family of 5 members, exactly two members have birthday on Sunday is
   a) $(12 \times 5^3)7^5$ b) $(10 \times 6^2)7^5$ c) 2/5 d) $(10 \times 6^2)7^5$

7. A man has 3 pairs of block socks and 2 pairs of brown socks kept together in a box. If he dressed hurriedly in the dark, the probability that after he has put on a block sock, he will, then put on another black sock is
   a) 1/3 b) 2/3 c) 3/5 d) 2/15

8. A three-digit number is selected at random from the set of all three-digit numbers. The probability that the number selected has all the three digits same is
   a) 1/9 b) 1/10 c) 1/50 d) 1/100

9. A fair die is rolled. The probability that the first time 1 occurs at the even throw is
   a) $\frac{1}{6}$ b) $\frac{5}{11}$ c) $\frac{6}{11}$ d) $\frac{5}{36}$

10. The probability that an automobile will be stolen and found within one week is 0.0006. The probability that an automobile will be stolen is 0.0015. The probability that a stolen automobile will be found in one week is
   a) 0.3 b) 0.4 c) 0.5 d) 0.6

11. A cricket club has 15 members, of whom only 2 can bowl. If the names of 15 members are put into a box and 11 are drawn at random, then the probability of getting an eleven containing at least 3 bowlers is
a) $7/13$ b) $6/13$ c) $11/15$ d) $12/13$

12. One ticket is selected at random from 100 tickets numbered 00, 01,02, ..., 98, 99. If x_1 and x_2 denotes the sum and product of the digits on the tickets, then $P(x_1 = 9/x_2 = 0)$ is equal to
a) $2/19$ b) $19/100$ c) $1/50$ d) None of these

13. The numbers (a, b, c) are selected by throwing a dice thrice, then the probability that (a, b, c) are in A.P.is
a) $1/12$ b) $1/6$ c) $1/4$ d) None of these

14. A letter is known to have come either from LONDON or CLIFTON; on the postmark only the two consecutive letters ON are legible. The probability that if came from LONDON is
a) $1/17$ b) $12/17$ c) $17/30$ d) $3/5$

15. A dice is thrown six times, it being known that each time a different digit is shown. The probability that a sum of 12 will be obtained in the first three throws is
a) $5/24$ b) $25/216$ c) $3/20$ d) $1/12$

16. If the papers of 4 students can be checked by any one of the 7 teachers, then the probability that all the 4 papers are checked by exactly 2 teachers is
a) $2/7$ b) $12/49$ c) $32/343$ d) None of these

17. On a Saturday night, 20% of all drivers in U.S.A. are under the influence of alcohol. The probability that a driver under the influence of alcohol will have an accident is 0.001. The probability that a sober driver will have an accident is 0.0001.If a car on a Saturday night smashed into a tree, the probability that the driver was under the influence of alcohol is
a) $3/7$ b) $4/7$ c) $5/7$ d) $6/7$

18. Five horses are in a race. Mr. A selects two of the horses at random and bets on them. The probability that Mr. A selected the winning horse is
a) $3/5$ b) $1/5$ c) $2/5$ d) $4/5$

19. Let p, q be chosen one by one from the set $\{1, \sqrt{2}, \sqrt{3}, 2, e, \pi\}$ with replacement. Now a circle is drawn taking (p, q) as its centre. Then the probability that at the most two rational points exist on the circle is (rational points are those points whose both the coordinates are rational)
a) $2/3$ b) $7/8$ c) $8/9$ d) None of these

20. There are 3 bags. Bag 1 contains 2 red and $a^2 - 4a + 8$ black balls, bag 2 contains 1 red and $a^2 - 4a + 9$ black balls and bag 3 contains 3 red and $a^2 - 4a + 7$ black balls. A ball is drawn at random from at random chosen bag. Then the maximum value of probability that is a red ball is
a) $1/3$ b) $1/2$ c) $2/9$ d) $4/9$