1. The probability of a solving question indepndently by A and B are $\frac{1}{3}$ and $\frac{1}{5}$,respectively.If both try to solve the question independently, the probability that the question is solved is

   (a) $\frac{7}{15}$
   (b) $\frac{8}{15}$
   (c) $\frac{2}{15}$
   (d) $\frac{14}{15}$

2. From a pack of 52 cards, 3 cards are drawn at random (without replacement). The probability that they are two red cards and one black card, is_____.

3. (a) A bag contains 19 tickets, numbered 1 to 19. A ticket is drawn at random and then another ticket is drawn without replacing the first one in the bag. Find the probability distribution of the number of even numbers on the ticket.

   (b) Find the probability distribution of the number of successes in two tosses of a die, when a success is defined as "number greater than 5"

4. A bag contains 5 red and 4 black balls, a second bag contains 3 red and 6 black balls. One of the two bags is selected at random and two balls are drawn at random (without replacement), both of which are found to be red. Find the probability that these two balls are drawn from the second bag.

5. An unbiased die is thrown. What is the probability of getting an odd number or a multiple of 3 ?

   (a) $\frac{3}{4}$
   (b) $\frac{1}{2}$
   (c) $\frac{2}{3}$
   (d) $\frac{1}{3}$

6. A card is drawn from an ordinary pack of 52 cards and a gambler bets that it is a heart or a king card. What are the odds against his winning this bet?

   (a) 4 : 9
   (b) 1 : 4
   (c) 4 : 1
   (d) 9 : 4

7. In a lottery of 25 tickets, numbered 1to 25, two tickets are drawn simultaneously. Find the probability that none of the tickets has prime number.

8. . If E_1 and E_2 are two events, where E_1 is a subset of E_2 then evaluate $P(E_2|E1)|$

9. (a) Two dice are thrown simultaneously. Find the probability of getting a multiple of 3 on one dice and a multiple of 2 on the other dice.

   (b) An urn contains 4 white, 7 green and 9 blue balls. If two balls are drawn at random, find the probability that the drawn balls are of the same colour.