SCS 1307

Tutorial 2

1. Events A and B are such that P(A)=2/5 and P(B)=1/4. If A and B are independent events, find $P(A \cap B)$, P(AUB') and P(A'UB')

2. Events A and B are such that P(A)=2/3, P(A|B)=2/3, P(B)=1/4. Find P(B|A) and $P(A \cap B)$.

3. Find the probability of a 4 turning up at least once in two tosses of a fair die.

4. A fair die is tossed twice. Find the probability of getting a 4, 5 or 6 on the first toss and a 1, 2, 3 or 4 on the second toss.

5. Two cards are drawn from a well-shuffled ordinary deck of 52 cards. Find the probability that they are both aces if the first card is (a) replaced (b) not replaced.

6. A ball is drawn at random from a box containing 6 red balls, 4 white balls, and 5 blue balls. Determine the probability that it is
   (a) red (b) white (c) blue (d) not red (e) red or white

7. If A and B are two independent events with P(A) < P(B), the probability that both A and B occur is 6/25, and P(A|B) + P(B|A) =1, find the value of P(A). (SCS 1213- 2019 Exam)

8. The probabilities that three men hit a target are 1/3, 1/4 and 1/6 respectively and each shoots once at the target.
   (a). Find the probability that all three men hit the target.
   (b). Find the probability that exactly one of them will hit the target. (SCs1213 -2019 Exam)