MCQ

1-If for any two events A and B ,P(A) = $\frac{4}{5}$ and P(A∩ B) = $\frac{7}{10}$, then P(B/A) is equal to

(a) $\frac{1}{10}$ (b) $\frac{1}{8}$ (c) $\frac{7}{8}$ (d) $\frac{17}{20}$

2-Five fair coins are tossed simultaneously.The probability of the events that at least one head comes up is

(a) $\frac{27}{32}$ (b) $\frac{5}{32}$ (c) $\frac{31}{32}$ (d) $\frac{1}{32}$

3- If the sum of numbers obtained on throwing a pair of dice is 9 ,then the probability that number obtained on one of the dice is 4 ,is

(a) $\frac{1}{9}$ (b) $\frac{4}{9}$ (c) $\frac{1}{18}$ (d) $\frac{1}{2}$

4-A and B are events such that p(A)=0.4 , P(B) =0.3 and P(AUB) =0.5. Then P(B'∩ A) equals

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

5-A bag contains 3 white ,4-black and 2 red balls .if two balls are drawn at random(without replacement),then the probability that both balls are white is

(a) $\frac{1}{18}$ (b) $\frac{1}{36}$ (c) $\frac{1}{12}$ (d) $\frac{1}{24}$

6-You are given that A and are two events such that P(B) = $\frac{3}{5}$ P(A/B) = $\frac{1}{2}$ and P(AUB) = $\frac{4}{5}$ then P(A) equals

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

7-Three persons , A , B and C fire a target in turn ,starting with A ,their probabiltyof hitting the target are 0.4 , 0.3 and 0.2 respectively .the probability of two hits is

a) 0.024   b) 0.188   c) 0.336   d) 0.452

8-Assume that in family, each child is equally likely to be a boy or a girl. a family with three children is chosen at random. the probability that the eldest child is a girl given that family has at least one girl is

(a) $\frac{1}{2}$
(b) $\frac{1}{3}$
(c) $\frac{2}{3}$
(d) $\frac{4}{7}$

9-Two dice are thrown together. let A be the event 'getting 6 on the first die 'and B be the event 'getting 2 on the second die ' then P(A ∩B) is

(a) $\frac{1}{36}$
(b) $\frac{7}{4}$
(c) $\frac{9}{20}$
(d) None of these

10-In a college, 30% students fail in Physics, 25% fails in Mathematics and 10% fails in both. One student is chosen at random. the probability that she fails in Physics if she has failed in Mathematics is

(a) $\frac{1}{10}$
(b) $\frac{2}{5}$
(c) $\frac{9}{20}$
(d) $\frac{1}{3}$

Subjective Questions:

1- There are two coins. One of them is biased such that P(heads):p(tails) is 1:3 and the other coin is a fair coin. a coin is selected at random and tossed once. if the coin showed head then find the probability that it is a biased coin.

2- A and B are independent events such that P(A∩ $\bar{B}$)=$\frac{1}{4}$ and P($\bar{A}$ ∩B)= $\frac{1}{6}$ Find P(A) and P(B).

3- A person has undertaken a construction job. the probabilities are 0.65 that there will be strike, 0.80 that the construction job will be completed on time if there is no strike and 0.32 that construction job will be completed on time if there is a strike. Determine the probability that the construction job will be completed on time

4- Often it is taken that a truthful person commands, more respect in the society. a man is known to speak the truth 4 out of 5 times. he throws a die and reports that it is actually a six. find the probability that it is actually a six.

5- There are two boxes I and II. box I contain 3 red and 6 black balls. Box II contains 5 red and 'n' black balls. One of the two boxes, box I and box II is selected at random and a ball is drawn at random. The ball drawn is found to be red. If the probability that this red ball comes out from box II is 3/5, find the value of 'n'.

6- A card from a pack of 52 paying cards is lost. from the remaining cards of the pack three cards are drawn at random (without replacement) and are found to be all spades. find the probability of the lost card being a spade.

7- There are two bags ,I and II . Bag I contains 3 red and 5 black balls and bag -II contains 4 red 3 black balls .One ball is transferred randomly from bag I to bag II and then a ball is drawn randomly from bag II.If the ball so drawn is found to be black in colour ,then find the probability that the transferred ball is also black.

8- A bag contains 5 red and 3 black balls and another bag contains 2 red and 6 black balls .Two balls are drawn at random (without replacement) from one of the bags and both are found to be red .find the probability that balls are drawn from first bag.

9- In a certain college , 4% of boys and , 1% of girls are taller than 1.75 m ,Furthermore , , 60% of the students in the college are girls .a students is selected at random from the college and is found to be a taller than 1.75 m .find the probability that the selected student is a girl .

10- A bag I contains 5 red and 4 white balls and a bag II contains 3 red and 3 white balls .two balls are transferred from bag I to the bag II and then one ball is drawn from the bag II.If the ball drawn from the bag II is red , then find the probability that one red and one white ball are transferred from the bag I and bag II.