SELF ASSESSMENT TEST -12
CLASS 10+2
PROBABILITY

1.Obtain P(A U B), if 2P(A)=P(B)=5/13 & P(A/B)=2/5.   Ans 11/26

2. A family has two children. What is the prob. that both the children are boys, given that at least one of them is a boy ?   ans 1/3

3. If P(A) =0.5 , P(B)=p, P(A U B)=0.7, find p if A & B are indep events?

4.One card is drawn at random from a pack of 52 cards. If A is the event a card is black and B is event a card is king, then find whether A & B independent ?

5.A bag contains 4 white balls and 2 black balls. Another bag contains 3 white balls and 5 black balls. If one ball is drawn from each bag find the prob that one is white and one is black.   Ans 13/24

6.There are three bags A,B & C.Bag A contains 4 red balls and 3 black balls. Bag B contains 5 red balls & 4 black balls. Bag C contains 4 red balls & 4 black balls. One ball drawn from each bag. What is the prob that the 3 balls drawn consist of 2 red balls & 1 black ball.   Ans 22/35

7.A problem is given to three students whose chances of solving it are 1/3,1/5 , 1/6. What is the prob that the problem is solved.   Ans 19/45

8.A and B throw a die alternate till one of them gets a 6 and wins the game. Find their resp prob of winning if A starts first.   Ans 6/11,5/11.

9.Three bags A, B and C contain 6 red and 4 white; 2 red and 6 white and 1 red and 5 white balls resp. An bag is chosen at random and a ball

is drawn. If the ball drawn is found to be red, find the prob that the ball was drawn from the bag A.   ans 36/41.

10. A factory has three machines A ,B and C which produce 30% , 50% & 20% resp. of total items of the same variety. Out of these 2%, 5% & 3% resp are found defective. An item is picked up at random and found to be defective.Find the prob that it is produced by B machine. Ans 6/37

11.An insurance company insured 3000 scooter drivers , 5000 car drivers and 7000 truck drivers. The prob of their meeting with an accident are 0.02,0.03 and 0.12 resp. one of the insured persons meetmwith an accident. What is prob that he is truck driver? Ans3/8.

12. A is known to speak the truth 3 out of 5 times. He throws a die and report that it is 1. Find the prob that it is actually 1.   Ans 3/13

13.Find the prob distribution of number of heads in two tosses of a coin. Also find mean and variance.

14.An bag contains 4 white and 3 red balls. Find the prob dist of the number of red balls in three draws one by one from the bag
(a) with replacement   (b) without replacement.

15.Four bad oranges are mixed with 16 good ones. If 3 oranges drawn from the lot. Find the prob dist of number of defective oranges.

16.A coin is tossed 8 times. What is the prob of getting
(a) at least 6 heads (b) at least 2 heads (c) at most 3 heads
(d) at most 7 head (e) exactly 4 heads (f) no head ?

17.The prob of a man hitting a target is ¼ . if he fires 7 times what is the prob of his hitting the target at least twice ?