**Probability and Random Processes (15B11MA301)**

**Practice Problems (Module 1)**

1. A bolt is manufactured by 3 machines A, B and C. A turns out twice as many items as B, and machines B and C produce equal number of items. 2% of bolts produced by A and B are defective and 4% of bolts produced by C are defective. All bolts are put into 1 stock pile and 1 is chosen from this pile. What is the probability that it is defective?

**[Ans- 1/40]**

1. There are 3 true coins and 1 false coin with ‘head’ on both sides. A coin is chosen at random and tossed 4 times. If ‘head’ occurs all the 4 times, what is the probability that the false coin has been chosen and used?

**[Ans- 16/19]**

1. Bag I contains 2 red and 1 black balls and Bag II contains 3 red and 2 black balls. What is the probability that a ball drawn from one of the bags is red?

**[Ans- 19/30]**

1. In a random experiment, P(A)=1/10, P(B)= 2/10, P(B/A) = 3/20. Find P (A B).

**[Ans- 57/200]**

1. If A B, P(A)= 1/5, P(B) = 1/7, find P(A/B) and P(B/A).

**[Ans- 7/5, 1]**

1. Two dice are thrown. What is the probability that the combination has both even numbers?

**[Ans- 9/36]**