Model Question Paper

Statistics and Probability Theory.

B.Tech. IV Sem. CS/IT.

1. If the events A and B are independent, then prove that $\bar{A}$ and $\bar{B}$ are also independent.

2. State and prove Baye's Theorem.

3. Find the value of K so that $f(x) = Kx(2-x)$ may be probability density function of a random variable x for $0 \le x \le 2$

4. Find Mgf of Binomial Distribution and hence find mean and variance.

5. Find the probability that at the most 5 defective fuses will be found in a box of 200 fuses if experience shows that 2% of such fuses are defective.

6. Prove for Binomial Distribution.

$$\mu_{x+1} = pq\left[n x \mu_{x-1} + \frac{d\mu_x}{dp}\right]$$