ACE

Engineering College

(NBA ACCREDITED B.TECH COURSES &NAAC "A" GRADE)

An Autonomous Institution

Ankushapur (V), Ghatkesar (M), Madchal.Dist – 501 301

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

II B.Tech I Semester Regular(R18) (2020-21)

Sub:COSM

ASSIGNMENT –I:

1. Define a)Random value b)Discrete Random Variablec)Continuous random Variable
2. State and prove bayertheorem?
3. Define conditional probability state and prove bayes theorem of total probability?
4. A box contains 2000 components of which 5% are defective. A second box contains 500 components of which 40% are defective. Two other boxes contains 1000 components each with 10% defective components. We select at random one of the above boxes and remove from it at random a single component.
5. Finding that the selected component is defective, which is the probability that it was drawn from box 2?
6. What is the probability that this component is defective?
7. From 6 positive and 8 negative numbers, 4 numbers are chosen at random without replacement and are then multiplied. The probability that the product of the chosen numbers will be positive number is?

8.A shipment of 6 television sets contains 2 defective sets. A hotel makes a random purchase of 4 of the sets. The probability distribution of X, where x is the number of defective sets purchased by the hotel, find the probability of X.

9.A fair die is tossed. Let X denote twice the number appearing. Find the probability distribution, mean and variance of X.

10.Finf the mean and variance of the random variable with the probability density function F(x)=2x/0,0<=x<=3?

ASSIGNMENT –2:

1.a)find the values of finite population correction factor for n=50 n=300b) A sample of size 400 is taken from a population whose sd is 16. Find standard error?

2.Determine probability that x will be between 22.39 and 22.41 if a random sample of size 36 is taken from an infinite population having the mu=22.4,sigma=0.048.

3.A population consists of five numbers 3,5,7,9,11.considerall possible samples if size 3that can be takenwithout replacement from the finite population.find mean of the population,SD of population ,Mean of sampling distribution of means.

4.DefineHypothesis,Nullhypothesis,Alternativehypothesis,Type I error and II errors.

5.Explain about one tailed and two tailed tests.