4E 2018

Roll No. _____ [Total No. of Pages : 4

4E 2018

B. Tech. IV Semester (Re Back) Examination - 2012

Computer Science

4CS5 Statistics and Probability Theory

Time : 3 Hours **Maximum Marks : 80**

Min Passing Marks : 24

Instructions to Candidates:

*Attempt any **Five questions.** Selecting **one question** from **each unit**. All questions carry **equal marks**. (Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.)*

Use of following supporting material is permitted during examination. (Mentioned in form No. 205)

1) Normal distribution Area Table

2) Calculator

Unit - I

1. a) Define Random experiments, sample space and events with an example. **(8)**

b) A manufacturer supplies cheap quarter horse power motors in a lot of 25. A buyer before taking a lot, tests a random sample of 5 motors and accepts the lot if they are all good. Otherwise he rejects the lot. Find the Probability that

i) he will accept the lot containing 5 defective motors.

ii) he will reject a lot containing only one defective motor. **(8)**

OR

2. a) In a certain factory turning out razor blades. There is a small chance $\frac{1}{100}$ for any blade to be defective. The blades are supplied in a packets of 10. Use Poission distribution to calculate the Approximate number of packets containing

i) No defective

ii) One defective

iii) Two defective blades respectively in consignment of 10,000 packets. (Given that $e^{-0.1} = 0.9048$) **(8)**