

4E 2918

Roll No. _____

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B.Tech. IV Semester (Main/Back) Examination 2012

Computer Engg. & I.T.

4IT4 Statistics & Probability Theory

Common for CP & IT

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).

Probability Tables.

Unit - I

1. a) A consignment of 15 record players contains 5 defectives. The record players are selected at random, one by one, and examined. Those examined are not put back. What is the probability that the 9th one examined is the last defective? (8)
- b) A company selected engineers through campus interview from a university. Out of the total selection made 60%, 30% and 10% are from Electronics, Computer and Mechanical respectively. If 9%, 20% and 60% of the selected students do not join the company. What is the probability that who do not join is from computer stream. (8)

OR

2. a) Compute the mean time to failure of a component of which the time T to failure follows a Weibull distribution with p.d.f. with α, β parameters given by

$$f(t) = \alpha \beta t^{\beta-1} e^{-\alpha t^\beta}; t > 0 \quad (8)$$