

Code: R7410208

R07

B.Tech IV Year I Semester (R07) Supplementary Examinations, May 2013
RELIABILITY ENGINEERING & APPLICATION TO POWER SYSTEMS
(Electrical & Electronics Engineering)

Time: 3 hours

Max. Marks: 80

Answer any FIVE questions
All questions carry equal marks

- 1 (a) Explain the rules for combining probabilities of events.
(b) A certain item is manufactured at two plants. Plant 1 makes 70% of the requirement and plant 2 makes 30%. From plant 1, 90% meet a particular standard and plant 2 only 80%. Evaluate:
(i) Out of every 100 items purchased by a customer, how many will be up to standard.
(ii) Given that the item is standard, what is the probability that it was made in plant 2.
- 2 (a) Explain series, parallel, series parallel networks.
(b) Explain conditional probability approach with example.
- 3 Derive the expected value and standard deviation of exponential distribution.
- 4 (a) Explain the limiting state probability evaluation.
(b) Explain time dependent probability evaluation by using Laplace transform approach.
- 5 Explain the frequency and duration techniques by using Markov techniques.
- 6 Explain the merging of generation and load models.
- 7 Explain the weather effect on transmission line by using reliability indices.
- 8 Explain the performance reliability indices of radial networks.
