

**B.Tech. – VIEP – ELECTRICAL ENGINEERING
(BTELVI)**

Term-End Examination

June, 2018

00843

BIEEE-010 : POWER SYSTEM RELIABILITY

Time : 3 hours

Maximum Marks : 70

Note : Attempt any **five** questions. All questions carry equal marks.

1. (a) What is generating capacity reliability ?
Discuss generation system model of a single unit. 10
- (b) Discuss load model for loss of load expectations. 4
2. Discuss various methods of assessment of operating reserve, in detail. 14
3. Explain independent load model of two interconnected systems. Discuss the reliability indices. 14
4. (a) What are the various effects of load transfer in radial distribution system ? 10
- (b) Compare isolated and interconnected power systems. 4

5. What are different techniques available for quantitative evaluation of transmission and distribution system reliability ? Discuss minimal cut-set method in detail. 14
6. (a) Write down the properties of Binomial distribution. 4
- (b) Explain two-state Markov model and derive the expression of availability and non-availability. Draw the state-space model for three units indicating all transition rates. 10
7. Write short notes on any **two** of the following : $2 \times 7 = 14$
- (a) Frequency Duration Method of Generator System Modelling
- (b) Multi-Connected System
- (c) Parallel Distribution Network
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