

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

**00814**      **Term-End Examination**  
**June, 2014**

**BIEEE-010 : POWER SYSTEM RELIABILITY**

*Time : 3 hours*

*Maximum Marks : 70*

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**Note :** *Attempt any seven questions. Each question carries equal marks.*

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1. Define the following distribution factors : 10
  - (a) Current injection
  - (b) Line outageHow are they used in contingency analysis ?
2. Define and explain the various annualized Load Point Reliability Indices used for Bulk Power System Reliability Analysis. 10
3. Explain how probability of failure and expected frequency of failure at a bus can be estimated for radial configuration of composite generation and transmission system. 10
4. (a) Explain the PJM method. 5  
(b) What is ORR Risk ? 5
5. Explain the Capacity Expansion Analysis method in detail. 10

- 6.** Write short notes on the following : *2×5=10*
- (a) State Load Model
  - (b) Scheduled Outages
- 7.** What is the effect of load transfer in power system ? Explain in detail. *10*
- 8.** What are the probability methods ? Explain in detail. *10*
- 9.** Explain the Tie-Probability Array method for two systems with suitable examples. *10*
- 10.** Write short notes on the following : *2×5=10*
- (a) Economics and Reliability
  - (b) Line Failure
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