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

Term-End Examination

December, 2015

BIEEE-010 : POWER SYSTEM RELIABILITY

Time : 3 hours   *Maximum Marks : 70*

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

1. What do you understand by Generator System model ? List all models for generator system in power system analysis and explain in detail the STATE LOAD model.   *14*

2. (a) What is an Interconnected system ? What are the various necessary requirements for interconnecting two power systems ?   *7*

    (b) Define variable load reserve and maximum load reserve for an interconnected system.   *7*

3. (a) What is scheduled power outages ? What are the reasons responsible for such type of outages ?   *7*

(b) How can these outages be avoided in existing power system scenario in India ? 7

4. (a) Define Operating Reserve. Also explain the 'UC' risks. 7

(b) Draw and explain the Generator system model used in 'PJM' method. 7

5. Explain in detail the lateral distribution protection, protection failures and transferring load for radial distribution system. *14*

6. Discuss in detail probability array methods for reliability analysis of interconnected system. *14*

7. Write short notes on any *two* of the following : *2×7=14*

(a) Outage Replacement Rate (ORR)

(b) Interruption Indices

(c) Parallel and Mesh Networks

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