

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

Term-End Examination

June, 2015

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BIEEE-010 : POWER SYSTEM RELIABILITY

Time : 3 hours

Maximum Marks : 70

Note : Attempt any seven questions. All questions carry equal marks.

1. Explain recursive algorithm for capacity model building in case of a generation model. 10

2. What are the probable causes of a forced outage and a planned outage ? Explain planned/scheduled outage with the help of an example. 10

3. Explain the probability array method in two interconnected systems with the help of suitable example. 10

4. What is variable reserve and maximum peak load reserve ? Compare both reserves and justify their uses. 10

5. Explain the following : 10
- (a) PJM Method
 - (b) Outage Replacement Rate (ORR)
 - (c) Unit Commitment Risk
6. Describe a security function approach in detail. 10
7. Explain coordinated and uncoordinated maintenance of parallel and meshed distribution system. 10
8. What is the effect of load transfer and lateral distributor protection on a radial distribution system ? 10
9. What are the effects of interconnection systems on system reliability ? Explain all the reliability indices. 10
10. Write short notes on any *two* of the following : $2 \times 5 = 10$
- (a) Unit Unavailability
 - (b) Rapid Start Units
 - (c) Multi-connected Systems
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