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

Term-End Examination

June, 2013

BIEEE-010 : POWER SYSTEM RELIABILITY

Time : 3 hours

Maximum Marks : 70

Note : *Attempt any seven questions. All questions carry equal marks. Assume missing data, if any.*

1. Explain how the Bus Voltages of a power system are modified for outage of two lines between four different buses of a system. **10**
2. What is Reliability Index ? How it is related to power system ? **10**
3. Show how the line currents are modified in healthy lines in power system following a single line outage. What will be the modification for double line outage ? **10**
4. (a) Explain the concept of "Three-phase modelling". **5**
(b) What is 'modelling of electrical component' and why it is required ? **5**

5. What are the different generator system models ? Explain them briefly. 10
6. Explain frequency duration method. 10
7. (a) Explain the radial system of distribution. 8
(b) Define UC Risk. 2
8. Explain the 'Scheduled Outage' in electrical power systems. 10
9. What is economic dispatch ? Develop the modified economic operation criterion for economic dispatch. 10
10. Write short notes on *any two* : 5+5=10
(a) PJM - Method
(b) ORR - Risk
(c) Parallel and Mesh Networks
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