No. of Printed Pages : 2

BIEEE-010

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

Term-End Examination

00645 **December, 2014**

BIEEE-010 : POWER SYSTEM RELIABILITY

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **seven** questions. All questions carry equal marks. Use of scientific calculator is permitted.*

1. What is a generator system model ? Draw and explain state load model used in a power system analysis. *10*

2. What is power outage ? What are the various factors responsible for an outage ? *10*

3. What is an interconnected system ? Write the advantages of an interconnected system. Define variable reserve and maximum peak load reserve for an interconnected system. *2+4+4*

4. Discuss probability array methods for reliability analysis of interconnected systems. *10*

5. What do you understand by operating reserve ? Explain outage replacement rate (ORR). Draw the generation model used in PJM method. *2+4+4*

6. Explain the various factors affecting the emergency assistance available through interconnections. *10*

7. Describe security function approach for the rapid start of generating units. *10*

8. Describe the various basic evaluation techniques for a radial distribution system. *10*

9. Explain in brief, the effect of lateral distribution protection, disconnects, protection failures and transferring load in case of a radial distribution system. *10*

10. Write short notes on any ***two*** of the following : *2×5=10*

    (i) UC risks

    (ii) Multi-connected systems

    (iii) Interruption indices
