B.Tech. ELECTRICAL ENGINEERING (BTELVI)

Term-End Examination

December, 2012

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. Define the following distribution factors :   **10**
    (a)   Current injection
    (b)   Line outage
    How are they used in contingency analysis ?

2. Explain contingency analysis for interconnectors.   **10**

3. What is 'modelling of electrical components and   **10**
    why it is required ? Explain the concept of the
    "three phase modelling".

4. Explain the term Reliability Indices and give some   **10**
    of its examples.

5. (a)   What is Variable Reserve and Maximum   **8**
          Peak Load Reserve ?
    (b)   What is Outage Probability ?   **2**

6. Explain the Security Function Approach in detail. **10**

7. Enumerate different Interruption Indices in the **10** distribution system.

8. (a) Explain the PJM Method. **8**
   (b) What is a 'Hot Reserve' ? **2**

9. (a) Explain the effect of Load Transfer, on **5** distribution system.
   (b) What is "ORR" Risk ? **5**

10. Write short notes on *any two* of the following : **2x5=10**
    (a) State Load Model
    (b) UC Risks
    (c) Scheduled Outages

————