| BIEEE-010 |

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

Term-End Examination

□□9ᔑ9   **December, 2017**

BIEEE-010 : POWER SYSTEM RELIABILITY

Time : 3 hours   *Maximum Marks : 70*

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

1. (a)   State the importance of Load Forecasting.   *4*

    (b)   What is the impact of weather on load forecasting ?   *5*

    (c)   Explain Weather Load model.   *5*

2. (a)   What is the Operating Reserve ? Explain.   *4*

    (b)   Explain   Outage   Replacement   Reserve (ORR).   *5*

    (c)   Draw a bathtub curve for hot reserve and define all three regions in it.   *5*

3. (a)   Describe with a state space diagram, the Markov model for a single transmission line under two-weather environment.   *10*

    (b)   Derive the expression of failure rate for a transmission line.   *4*

4. (a) What is unit unavailability for a generator system ? *4*

(b) What are the various generating capacity limits ? Explain each in detail. *10*

5. (a) Discuss the various reliability indices that are used for the analysis of interconnected power systems. *10*

(b) Explain the data required for interconnected system reliability evaluation. *4*

6. (a) Explain the various interruption indices for distribution system performances. *10*

(b) Differentiate between Parallel and Mesh networks with suitable examples. *4*

7. (a) Give a short note on Two Plant Style load systems. *10*

(b) Differentiate between variable reserve and maximum peak load reserve. *4*

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