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BIEE-025

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

Term-End Examination

00503

December, 2016

BIEE-025 : POWER SYSTEM PLANNING AND LOAD FORECASTING

Time : 3 hours *Maximum Marks : 70*

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

1. (a) Define quantitative forecasting and describe its role in power system planning studies. 7

(b) What do you understand by load forecasting ? Discuss its importance in the power system planning process. 7

2. (a) Explain short-term load forecasting and state its techniques. 7

(b) Discuss the various methods of long-term load forecasting. 7

3. (a) Differentiate between forecasting and planning. 7

(b) Define ARMA Model. (Auto Regression Moving Average Model) 7

4. (a) What are the factors affecting the accuracy of forecasting methods ? 7

(b) How do we classify the various power system studies from Time-Horizon perspective ? 7

5. (a) Explain the distribution system planning. 7

(b) What do you understand by the term 'Expected Energy Not Served' (EENS) ? 7

6. What do you mean by single bus generation expansion planning ? Describe the objective functions and constraints of this GEP problem. 14

7. Write short notes on any ***two*** of the following : $2 \times 7 = 14$

(a) Loss of Load Probability (LOLP)

(b) Peak Load Forecasting

(c) Optimized Generation Planning