

**B.Tech. - VIEP - ELECTRICAL ENGINEERING
(BTELVI)****Term-End Examination****December, 2015****BIEE-025 : POWER SYSTEM PLANNING AND LOAD
FORECASTING***Time : 3 hours**Maximum Marks : 70*

Note : Answer any five questions. Each question carries equal marks. Use of scientific calculator is permitted.

1. (a) Discuss the importance of load forecasting in power system planning. 7
- (b) What are the conditions to be applied on quantitative forecasting ? 7
2. (a) Explain the problems faced by electricity industry for planning and forecasting. 7
- (b) What is long-term load forecasting ? Explain multivariate procedures in brief. 7
3. (a) Describe the factors affecting accuracy of forecasting methods. 7
- (b) Discuss the role of forecasting in planning. What are the criteria for the selection of forecasting method ? 7

4. The following table shows the amount spent by different customers in a shop. Using least square estimates, calculate SSE (sum of squared errors) and MSE (mean squared errors) for an average spend of 7 and 12 :

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<i>Customer</i>	<i>Amount Spent (₹)</i>
1	9
2	8
3	9
4	12
5	9
6	12
7	11
8	7
9	13
10	9
11	11
12	10

5. (a) Explain the time horizon effects on forecasting methods. 7
- (b) Why is generation planning not suitable before load forecasting? 7

6. (a) Explain fundamental economic analysis for generation planning optimized according to different categories of generating unit. 7
- (b) Discuss the significance of planning and forecasting of distribution and transmission systems. 7
7. Write short notes on the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Time series forecasting
- (b) Spatial load forecasting
- (c) Need of forecasting and planning
- (d) Difference between long-term and short-term forecasting
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