

**DIPLOMA IN ELECTRICAL ENGINEERING
(DELVI)**

00579

Term-End Examination

December, 2017

**BIEE-037 : POWER PLANT ECONOMICS
AND CONTROL**

Time : 2 hours

Maximum Marks : 70

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

1. (a) What are the deciding factors for the choice of site for economic consideration of steam power stations ? 7
- (b) Explain the differences among domestic, commercial and industrial consumers. 7
2. (a) Explain how transmission loss is computed in a transmission line. 7
- (b) Explain in detail, the furnace draft control scheme of a boiler. 7
3. Explain the following terms : $4 \times 3 \frac{1}{2} = 14$
 - (a) Unit commitment
 - (b) Incremental fuel cost
 - (c) Upper and lower frequency limits
 - (d) Zirconium sensor

4. (a) Discuss the different classification of tariffs of electrical energy. 7
- (b) How does the high load factor reduce the variable load problem on the power station ? 7
5. (a) Why is tariff for power load less than the lighting load ? 7
- (b) Explain the steam temperature control mechanism in a boiler. 7
6. (a) Explain the terms Load factor and Diversity factor. 7
- (d) Discuss the important points to be taken into consideration while selecting the size and number of units. 7
7. Write short notes on any **two** of the following : $2 \times 7 = 14$
- (a) Supervisory Control and Monitoring System
- (b) Optimal Hydro-thermal Scheduling
- (c) Spinning Reserve
-