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BIEE-037

DIPLOMA IN ELECTRICAL ENGINEERING (DELVI)

00183 **Term-End Examination**

December, 2016

BIEE-037 : POWER PLANT ECONOMICS AND CONTROL

Time : 2 hours *Maximum Marks : 70*

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

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1. Explain a nuclear power plant with a neat line diagram showing its basic components. Discuss the advantages and disadvantages of nuclear power plants compared with thermal power plants. *14*

2. (a) Explain clearly how a good load factor and a good diversity factor help to keep the overall cost of generation low. *7*

   (b) How are the number and size of units in an isolated power plant selected ? *7*

3. What are the different types of tariff used by the electricity authority ? Discuss any two of them and indicate the types of consumers where such tariffs are used. *14*

4. (a) Discuss the importance of encouraging customers to use electricity during off-peak hours. *6*

(b) Explain the following : *2×4=8*

(i) Power factor

(ii) Subsidization and Cross subsidization

5. Describe clearly installed reserve and installed capacity. Briefly discuss the factors affecting economics of generation and distribution of power and how one can reduce the power generation cost. *14*

6. What are the principal requirements of an ash handling plant ? Discuss the problems in ash handling. Explain any one method of handling the ash. *14*

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

(a) Optimal Hydrothermal Scheduling

(b) Furnace Draft Control

(c) Active and Reactive Power Optimization
