

**B.Tech. SEM -VII Electrical 2014 Course (CBCS) : WINTER - 2018**  
**SUBJECT-UTILIZATION OF ELECTRICAL ENERGY**

Day: Friday  
Date: 30/11/2018

**W-2018-2552**

Time: 02.30 PM TO 05.30 PM  
Max. Marks: 60

**N.B.:**

- 1) All questions are **COMPULSORY**.
- 2) Use of non programmable **CALCULATOR** is allowed.
- 3) Draw neat labeled diagrams **WHEREVER** necessary.
- 4) Figures to the right indicate **FULL** marks.
- 5) Assume suitable data, if necessary.

- Q.1** a) What is the application of dielectric heating? (05)  
b) Explain construction of Ajax Wyatt vertical core furnace. (05)

**OR**

- Q.1** a) Explain construction of direct resistance furnace. (05)  
b) What are advantages and disadvantages of high frequency heating? (05)

- Q.2** a) What do you understand by power factor explain the necessity of improving power factor? (05)  
b) What is the special feature of Two part tariff? For which category of consumers is it used? (05)

**OR**

- Q.2** a) Explain straight line method to determine depreciation cost of the power plant. (05)  
b) Discuss the different classification of cost of electrical energy. (05)

- Q.3** a) What are objectives of lighting scheme? (05)  
b) Write a short note on electroplating. (05)

**OR**

- Q.3** a) Explain the Inverse square law of illumination and explain its limitations. (05)  
b) Explain the various lighting scheme used in illumination. (05)

- Q.4** a) What is electro deposition? Explain in detail various factors which have an effect on the appearance and quality of deposited surface. (05)  
b) What is meant by anodizing? Explain the process of anodizing. (05)

**OR**

- Q.4** What is electroplating? Explain the purpose of electroplating along with various operations involved in electroplating. (10)

- Q.5** a) What are the different traction systems? Enlist the requirement of a good traction system. (05)  
b) What are the different systems of track electrification? (05)

**OR**

- Q.5** a) Discuss the merits and demerits of steam engine drive. (05)  
b) What are the advantages of electric drive? Also state the limitations of electric drive. (05)

- Q.6** What do you mean by speed time curve? What type of services can be referred to trapezoidal and quadrilateral speed time curve? (10)

**OR**

- Q.6** a) What do you mean by specific energy consumption? What are the factors affecting specific energy consumption? (05)  
b) What is the main advantage of series parallel control of motors over rheostatic method of starting and speed control? (05)

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