

B.Tech. SEM -VII Electrical 2014 Course (CBCS) : SUMMER - 2019

SUBJECT: UTILIZATION OF ELECTRICAL ENERGY

Day: Tuesday
Date: 14/05/2019

S-2019-2817

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.
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Q.1 What is the concept of electric heating? Along with its various methods, applications and advantages explain electric heating in detail. **(10)**

OR

- Q.1** a) Explain the temperature control method of resistance furnaces. **(05)**
b) Explain the construction and working of resistance oven. **(05)**

- Q.2** a) Which are the factors affecting the framing of tariff. **(05)**
b) Which are the various types of tariffs? Explain the tariff which is implemented for residential purposes. **(05)**

OR

- Q.2** a) What are the drawbacks of poor power factor? **(05)**
b) Write a short note on economic choice of equipment. Also mention the factors influencing the choice of equipments. **(05)**

Q.3 State and explain Cosine law and Inverse square law of illumination with a proper derivation. **(10)**

OR

- Q.3** a) What are the requirements of a good lighting scheme? **(05)**
b) Draw and explain the Sodium discharge lamp. **(05)**

- Q.4** a) Which are the factors governing electro deposition? **(05)**
b) Which are the equipments and accessories of an electroplating plant? **(05)**

OR

Q.4 What is anodizing? Which alloys are recommended for the process of anodizing? Explain in detail with neat diagram preparation techniques and applications of anodizing. **(10)**

- Q.5** a) What are the advantages of electric drives over other system? **(05)**
b) Write a short note on KANDO system. **(05)**

OR

Q.5 With a neat block diagram explain electric locomotive with description of various equipments and accessories. **(10)**

- Q.6** a) Which characteristics are to be possessed by a suitable traction motor? **(05)**
b) Write a short note on regenerative braking in traction. **(05)**

OR

- Q.6** a) Which are the factors affecting specific energy consumption? **(05)**
b) State the application of Linear Induction motors for traction with suitable diagram. **(05)**