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

SUBJECT: UTILIZATION OF ELECTRICAL ENERGY

Day: Tuesday | Time: 02.30 PM TO 05.30 PM

Date: 14/05/2019 | S-2019-2817 | 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 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)**

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