

BACHELOR OF TECHNOLOGY (C.B.C.S.) (2014 COURSE)

B.Tech.Sem - VII ELECTRICAL : : SUMMER - 2022

SUBJECT : UTILIZATION OF ELECTRICAL ENERGY

Day : Wednesday

Date : 01-06-2022

S-13345-2022

Time : 02:30 PM-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 a)** Explain the different methods of 'Electrical heating'. (05)
b) Explain 'Induction heating' in detail. (05)

OR

- Q.1 a)** Explain 'Core Type' induction heating furnace. (05)
b) Explain the various control techniques for control of resistance oven (05)

- Q.2 a)** Explain the importance of 'Sinking fund' calculations. (05)
b) Explain in detail 'Two Part Tariff'. (05)

OR

- Q.2 a)** Explain the factors governing the 'Economic choice of Equipments'. (05)
b) Define 'Tariff'. Explain Power factor related Tariff in detail. (05)

- Q.3 a)** State and explain the laws of illumination. (05)
b) Explain the various terms related to illumination. (05)

OR

- Q.3 a)** Explain 'Light Flux method' in detail. (05)
b) Explain 'Photo Cells' in details with its applications (05)

- Q.4 a)** Explain the process of 'Anodizing' and describe the equipment's used in it. (05)
b) Explain Faraday's law of Electrolysis (05)

OR

- Q.4** Explain Electroplating in detail. Also explain its need and various processes involved in it. (10)

- Q.5 a)** Explain the advantages and Disadvantages of 25 kV AC Traction system. (05)
b) State the properties which a traction motor should possess. (05)

OR

- Q.5 a)** Explain Steam Engine drive in detail. (05)
b) Explain Single phase to dc system. (05)

- Q.6 a)** Explain Specific energy consumption in detail. Also explain the factors affecting it. (05)

- b)** Explain Electric braking, also explain the requirement of a good braking system. (05)

OR

- Q.6** Explain Speed-Time curve in detail? What types of services can be referred to Trapezoidal and Quadrilateral Speed-Time curve. (10)

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