

- Q.27 Explain the factors that are considered for the selection of particular motor for a particular use. (CO6)
- Q.28 Describe the desirable characteristics that a traction motor should possess. (CO7)
- Q.29 Make a comparison between individual and Group drive. (CO6)
- Q.30 Explain the causes of failure of heating elements? (CO2)
- Q.31 Explain resistance Welding. (CO3)
- Q.32 Explain the circuit of water cooler. (CO5)
- Q.33 Explain Faraday's law of electrolysis. (CO4)
- Q.34 Write a short note on train lighting scheme. (CO1)
- Q.35 Explain the process of refining of metals. (CO4)

#### **SECTION-D**

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Define electric braking. Explain the various types of electric braking. (CO6)
- Q.37 Explain the principle of air conditioning. Draw and explain the electric circuit of air conditioner. (CO5)
- Q.38 Draw the block diagram of electric locomotive and explain the various accessories and equipment used. (CO7)

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170943

### **4th Sem / Elect Subject:- Utilization of Electrical Energy**

Time : 3Hrs.

M.M. : 100

#### **SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Which is a process by which purity of metal extracted from their ores can be improved? (CO4)
- a) Electrodeposition b) Refining
  - c) Electroplating d) Anodizing
- Q.2 The area under the speed - time curve represents the (CO7)
- a) Acceleration of the train
  - b) Time taken by the train
  - c) Distance travelled by the train
  - d) Crest speed
- Q.3 Induction heating process is based on (CO2)
- a) Electro-magnetic induction principle
  - b) Resistance heating principle
  - c) Thermal ion release principle
  - d) Nucleate heating principle
- Q.4 The method of heating used in an electric room heat convector is (CO2)
- a) Resistance heating b) Induction heating
  - c) Dielectric heating d) Arc heating

- Q.5 The consideration involved in the selection of the type of electric drive for a particular application depends upon (CO6)
- Speed control range and its nature
  - Starting Nature
  - Environmental condition
  - All of the above
- Q.6 Long distance railways use (CO7)
- 200 VDC
  - 25 kV Single phase AC
  - 25 kV Two phase AC
  - 25 kV three phase AC
- Q.7 \_\_\_\_\_ drive is also called as Line shaft drive(CO6)
- Individual drive
  - Multimotor drive
  - Group Drive
  - None of the above
- Q.8 \_\_\_\_\_ has the highest value of thermal conductivity. (CO2)
- Copper
  - Aluminium
  - Brass
  - Steel
- Q.9 Power supply frequency for 25 kV single phase system is (CO7)
- 161
  - 25
  - 50
  - 60
- Q.10 Rating of a domestic refrigerator is of the order of (CO5)
- 0.1 ton
  - 5 tons
  - 10 tons
  - 40 tons

## SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Which electrode is used in TIG welding. (CO3)
- Q.12 In which braking, the motor is disconnected from supply and is made to run as generator? (CO7)
- Q.13 Unit of refrigeration is \_\_\_\_\_. (CO5)
- Q.14 Define Electric heating. (CO2)
- Q.15 Name the commonly used material as refrigerants. (CO5)
- Q.16 The most commonly used traction motor is \_\_\_\_\_. (CO7)
- Q.17 Expand EMU. (CO7)
- Q.18 Which supply is used in electroplating? (CO4)
- Q.19 Negative ions are also called \_\_\_\_\_. (CO4)
- Q.20 Define Electric Drive. (CO6)

## SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Write five advantages of electric heating. (CO2)
- Q.22 Explain flash butt welding. (CO3)
- Q.23 Write the qualities of good refrigerants. (CO5)
- Q.24 Explain conductor rail system used for track electrification. (CO7)
- Q.25 Write any five advantages of electric drive over mechanical drive. (CO6)
- Q.26 Write a short note on Metro railways. (CO7)