

ROLL No:

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Total number of pages:[2]

Total number of questions: 06

B.Tech. || EE || 6th Sem

Electric Power and Utilization

Subject Code: BTEE-601

Paper ID:

Time allowed: 3 Hrs

Max Marks: 60

Important Instructions:

- All questions are compulsory
- Assume any missing data
- Additional instructions, if any

PART A (10x 2marks)

Q. 1. Short-Answer Questions:

- Write the classification of electric drive.
- Why electric heating is preferred over other forms of heating?
- Enumerate the factors governing selection of electric motors.
- What do you understand by illumination?
- What is meant by anodizing?
- What is the value of voltage used in overhead supply for trains in India?
- What is group drive?
- Define the energy efficiency in electrolytic process.
- What do you understand by reverse current process in electroplating?
- What are the different types of electric welding?

PART B (5×8marks)

Q.2. Describe the construction and operation of dielectric heating and its applications.

OR

Discuss the principle of electric spot welding and seam welding.

CO1

Q. 3. Explain the construction and principle of operation of gaseous discharge lamp.
OR

CO2

OR

State and describe various types of lighting schemes.

CO2

Q. 4. Draw the electric circuit of refrigerator and explain its working.

CO3

OR

Explain with the help of diagram the working of vapour absorption refrigeration system.

CO3

Q. 5. A 4-pole, 50 Hz induction motor has a flywheel on its shaft. Total inertia at the motor shaft is 1000 kg-m^2 . Load torque is 100 kg-m for 10 seconds followed by a no load period long enough for the flywheel to regain its full refrigeration system. CO4

speed. Motor has a slip of 6 % at a torque of 50 kg-m. Calculate the speed at the end of deceleration period. Assume motor speed torque characteristics to be a straight line in the region of interest and neglect friction and windage.

OR

State laws of illumination. A lamp of 500 W having a mscp of 1250 is suspended 2.7 meters above the working plane. Calculate a) illumination directly below the lamp at the working plane b) lamp efficiency c) illumination at a point 3 m away on the horizontal plane from vertically below the lamp. CO4

Q. 6. State Faraday's Law of electrolysis and explain them. List the major applications of electrolysis and explain the basic principle of electro deposition. CO1

OR

What are the different traction systems? Discuss them in brief. CO1