PVP 14

Code: CE2T5, ME2T5

I B.Tech - II Semester – Regular/Supplementary Examinations
April - 2018

BASIC ELECTRICAL & ELECTRONICS ENGINEERING

(Common for CE & ME)

Duration: 3 hours Max. Marks: 70

PART – A

Answer ***all*** the questions. All questions carry equal marks

11x 2 = 22 M

1.

a) Draw the layout of modern thermal power plant.
b) List out the components of gas turbine power plant.
c) Explain Kirchoffs current law with an example.
d) Explain different types of sources in an electrical circuit.
e) Explain the importance of starters.
f) Discuss about split phase in a single phase AC motors.
g) Explain the operation of single phase transformer.
h) Write the applications of a DC welding generator.
i) What is a semiconductor and explain different types of semiconductors?
j) Discuss about zener diode.
k) Write the applications of a diode.

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.

3 x 16 = 48 M

2. Draw the layout of gas turbine power station and explain each block. 16 M

3. a) Three equal resistance of 20 Ω is connected in a star. Convert the circuit into the delta. 10 M

   b) If two resistors R_1 = 10 kΩ, R_2 = 20 kΩ are connected in parallel with a voltage source of 2V. Determine the current in each resistor. 6 M

4. a) Discuss the principle of operation of a 3 phase induction motor. 8 M

   b) Explain the torque characteristics of a universal motor. 8 M

5. a) Define the efficiency of a transformer. Discuss different losses in a transformer. 8 M

   b) Explain the construction and principle of single phase welding transformer. 8 M

6. a) Draw the circuit diagram of a full wave rectifier and explain its operation. 8 M

b) Explain single stage CE amplifier operation. 8 M