

Reg. No.

Signature

3rd SEMESTER DIPLOMA EXAMINATION IN ENGINEERING / TECHNOLOGY - MODEL QUESTION - 2

ELECTRICAL AND ELECTRONICS

[Time : 3 hours]

PART - A (Maximum marks : 10)

I Answer the following question in one or two sentences.. Each question carries 2 marks.

1. What is generator?
2. Purpose of yoke in a dc generator?
3. Draw the circuit symbol of SCR, PN diode?
4. What are the anode and cathode of leadacidcell?
5. What is Induction heating?

(5 x 2 = 10)

PART - B (Maximum marks : 30)

II Answer Any five questions from the following. Each question carries 6 marks.

1. Explain constant current method of charging with the help of a neat diagram?
2. Explain back emf?
3. Explain the necessity of starter in a dc motor?
4. List the various application of Induction motors?
5. Explain the working principle of single phase Induction motor?
6. Draw the constructional details of moving iron Instrument and name different parts?
7. Explain the classification of Transformer based on function?
8. Draw the block diagram of control system?

(5 x 6 = 30)

PART - C (Maximum marks :60)

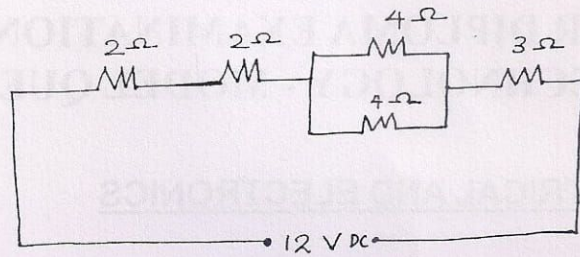
(Answer one full question from each unit. Each question carries 15 marks)

UNIT - I

- III a) Explain the working of lead acid cell with neat figure? (8)
- b) State and explain the line current and phase current, line voltage and phase voltage in star connection? (7)

OR

- IV a) Find the effective resistance branch current and power in the give circuit? (7)



- b) Explain the working principle of 3 ϕ alternator? (8)

UNIT - II

- V a) Explain the principle of cooking of Dc motor? (7)
 b) Explain the constructional details of 3 ϕ Induction motor? (8)

OR

- VI a) List the various application of DC motor? (7)
 b) Explain the working principle of single phase Induction motor? (8)

UNIT - III

- VII a) Explain the cooking principle of dynamometer type watt meter? (8)
 b) Explain the principle of Dielectric heating? (7)

OR

- VIII a) Explain the construction of an arc furnace? (7)
 b) Specify any three industrial application of electric heating? (3)
 c) Write the comparison between moving coil and moving Iron Instrument? (5)

UNIT - IV

- IX a) Explain active and passive components? (6)
 b) Explain the working of diode as a Rectifier? (4)
 c) Explain the functions of logic gates OR, AND, NAND? (5)

OR

- X a) Sketch the operation of an NPN Transistor (BTT)? (7)
 b) Explain the advantages of logic gates? (3)
 c) Explain rectifier action of a half wave rectifier? With neat circuit diagram? (5)