



TED (15) – 3021

Reg. No.

(REVISION – 2015)

Signature

THIRD SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/
TECHNOLOGY — OCTOBER, 2016

ELECTRICAL AND ELECTRONICS ENGINEERING

(Common for ME, AU and TD)

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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

1. What is meant by secondary cell ?
2. State the functions of commutator in a DC generator.
3. Define % slip.
4. List any two advantages of moving coil instrument over moving iron instrument.
5. List any two types of capacitors. (5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. State and explain Ohm's law.
2. Define efficiency and rating of a battery.
3. Describe the principle of working of DC motors.
4. Explain the construction and working of single phase capacitor start induction motor.
5. Explain the constructional details of attraction type moving iron instrument.
6. Give examples for active components used in electronics circuit.
7. Explain about automation. (5×6 = 30)



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Marks

PART — C

(Maximum marks : 60)

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

UNIT — I

- III (a) Explain about generation of three phase AC system. 8
(b) Describe the methods of charging of lead acid cell. 7

OR

- IV (a) Draw star and delta connections. Compute the line voltage, line current and phase voltage, phase current in a star and delta connection. 8
(b) Distinguish two types of rotors in 3 phase AC generators. 7

UNIT — II

- V (a) Explain the constructional details of 3 phase induction motor. 8
(b) Draw and explain DOL starter. 7

OR

- VI (a) Explain the working principle of single phase induction motor. 8
(b) Derive the emf equation of a transformer. 7

UNIT — III

- VII (a) Describe the working principle of dynamometer types wattmeter with neat diagram. 8
(b) Explain working of induction furnaces. 7

OR

- VIII (a) Explain the power measurement in three phase AC system by two wattmeter method. 8
(b) State the principle of heat production from electric power. 7

UNIT — IV

- IX (a) Explain the working principle of SCR and give two applications. 8
(b) Illustrate the basic block diagram of control system. 7

OR

- X (a) Explain the working principle of NPN transistor. 8
(b) Give logic symbols and truth table of logic gates AND, OR, NOT. 7