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TED (10) – 3089

(REVISION - 2010)

I

Reg. No.

Signature

THIRD SEMESTER DIPLOMA EXAMINATION IN POLYMER TECHNOLOGY — MARCH, 2015

FUNDAMENTALS OF ELECTRICAL AND ELECTRONICS ENGINEERING

[Time: 3 hours]

(Maximum marks: 100)

PART-A

(Maximum marks : 10)

Marks

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

1. Define cycle.

2. What is form factor?

3. What are the losses in a transformer.

4. Define doping.

5. What is electric shock?

 $(5 \times 2 = 10)$

PART-B

(Maximum marks : 30)

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

1. Explain Faraday's laws of electromagnetic induction.

2. Classify DC generators based on excitation.

3. Explain the principle of 3 ϕ induction motor.

4. Describe limit switches.

5. Explain the safety precautions against electric shock.

6. Explain p-type material.

7. What is passive and active transducer.

PART-C

(Maximum marks : 60)

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

UNIT-I

(a) Explain the main parts of a DC generator.

(b) Describe self-induction and mutual induction.

OR

[195]

III

8

7

(5×6=30)

Marks

8

7

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IV (a) Explain principle of speed control of DC motor.

(b) Explain the necessity of motor starters.

UNIT-II.

- V (a) Derive the emf equation of a transformer.
 - (b) Classify electrical measuring instruments give examples.

Or

- VI (a) State the working of Megger.
 - (b) Explain auto transformer.

UNIT-III

- VII (a) State the advantages of electric heating.
 - (b) Draw pipe earthing and label it.

Or

- VIII (a) Draw plate earthing and label it.
 - (b) Explain dielectric heating.

UNIT-IV

- IX (a) Explain N-type material.
 - (b) Describe strain gauges.

OR

- X (a) Draw CB, CE, CC configuration of transistors.
 - (b) Explain LVDT.