TED (15) - 5034 Reg. No.....

(REVISION-2015) Signature.....

DIPLOMA EXAMINATION IN ELECTRICAL & ELECTRONICS ENGINEERING

ELECTRICAL ENGINEERING MATERIALS

[Time: 3 hours]

(Maximum marks: 100)

PART-A

(Maximum marks: 10)

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

1. List any two application of Nichrome.
2. Write short note on Trimmers.
3. Give examples of Trivalent and Pentavalent impurity used in extrinsic semiconductors.
4. Define Curie point.
5. List the different type of Insulation resistance. (5×2=10 marks)

PART- B

(Maximum marks: 30)

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

1. List the Electrical and Mechanical properties of conducting material.
2. Compare Intrinsic and Extrinsic semi conductor.
3. Explain V I characteristics of PN junction diode.
4. Compare soft and hard magnetic materials.
5. With a neat figure explain magnetic Hysteresis.
6. Explain thermal classification of insulating materials with examples.
7. Explain varies types of capacitors used in electronics.

(5×6=30 marks)

PART-C

(Maximum marks: 60)

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

UNIT—I

III	(a) Compare ACSR and AAA Conductor.	(8)
	(b) Compare the properties of Copper and Aluminum.	(7)
	OR	
IV	(a) List the properties required for a good fuse element.	(8)
	(b) List the various types of resisters used in electronics.	(7)

UNIT—II

V	(a) Explain the working of a Solar cell	(8)
	(b) Explain the working of a PNP transistor.	(7)
	OR	
VI	(a) Explain forward and reverse biasing of a PN junction.	(8)
	(b) Explain the working of LED	(7)

UNIT—III

VII	(a) Writhe notes on Diamagnetic, Paramagnetic and Ferromagnetic materials.	(8)
	(b) Explain CRGO and its applications.	(7)
	OR	
VIII	(a) Explain the properties and applications of Ferrites.	(8)
	(b) Explain various types of transformers used in electronic circuits.	(7)

UNIT—IV

IX	(a) Explain the properties of Fibrous and Ceramic insulating materials.	(8)
	(b) Explain Polarisation.	(7)
	OR	
X	(a) List the properties of Transformer oil.	(8)
	(b) Explain Dielectric loss and factors affecting dielectric loss.	(7)