



C09-AEI-105

3010

BOARD DIPLOMA EXAMINATION, (C-09)

MARCH/APRIL—2013

DAEI—FIRST YEAR EXAMINATION

ELECTRONIC COMPONENTS AND DEVICES

Time : 3 hours]

[Total Marks : 80

PART—A

3×10=30

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answer should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Classify the various types of resistor.
2. Define dielectric constant of a material.
3. List the applications of transformers.
4. Define the terms 'switch' and 'relay'.
5. List the different types of microphone.
6. Distinguish between drift and diffusion current.
7. State the electrical properties of semiconductors.

8. Define alpha, beta and gamma factors of a transistor.
9. Define 'voltage regulation'.
10. List the advantages of PCB's.

PART—B

10×5=50

Instructions : (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. (a) Describe the working of rheostats. 5
(b) Explain the need for tapering in potentiometers. 5
12. (a) Explain the properties and applications of mica capacitors. 5
(b) What are the factors affecting the capacitance of a capacitor? 5
13. (a) Define self-inductance and mutual inductance. 5
(b) List the specifications of inductors. 5
14. (a) Classify the switches according to poles and throws. 5
(b) Draw the ISI symbols of switches. 5
15. (a) What is the need for a baffle? 5
(b) List the specifications of PCB's. 5

- 16.** (a) Explain the working of a Zener diode. 5
(b) Distinguish between intrinsic and extrinsic semiconductors. 5
- 17.** Explain CB configuration with input and output characteristics. 10
- 18.** (a) Compare between lead-acid cell and nickel-iron cell. 5
(b) List the applications of storage batteries. 5

★ ★ ★