



C09-AEI-105

3010

BOARD DIPLOMA EXAMINATION, (C-09)

MARCH/APRIL—2014

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) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. List the specifications of resistor.
2. Define capacitor and capacitance.
3. Define self-inductance and mutual inductance.
4. Define switch and relay.
5. Compare between the performance characteristic of Cone type and Horn type loudspeaker.
6. Define drift and diffusion current.
7. State the electrical characteristics of semiconductor.
8. Derive the relationship between alpha and beta factors.
9. List the applications of storage batteries.
10. List the standard specifications of PCB.

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PART—B

10×5=50

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

- 11.** Describe the working of rheostat with a neat diagram and mention its applications.
- 12.** (a) Derive an expression when capacitors are connected in parallel.
(b) State the factors affecting the capacitance of a capacitor.
- 13.** (a) Describe the construction of core type transformer with a neat diagram.
(b) List out the applications of AF and RF chokes.
- 14.** (a) Explain the construction and working of general-purpose electromagnetic relay with a neat diagram.
(b) Explain the working of MCB.
- 15.** (a) List the different types of microphones based on impedance, directional properties and principle of working.
(b) List the steps involved in screen printing for making PCBs.
- 16.** (a) Distinguish between Zener breakdown and Avalanche breakdown.
(b) Explain the formation of N-type and P-type materials with a neat diagram.
- 17.** (a) Explain the working of NPN transistor with a neat diagram.
(b) Draw the input characteristic of transistor in CB configuration.
- 18.** (a) Explain the working of half-wave rectifier circuit with a wave form.
(b) List out the different types of storage batteries.
