



C09-AEI-105

3010

BOARD DIPLOMA EXAMINATION, (C-09)

OCT/NOV—2015

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. Define the term 'Resistance'.
2. Define dielectric constant of a capacitor.
3. Classify inductors based on core material used.
4. Classify relays based on application.
5. List any three specifications of microphones.
6. List the trivalent impurities.
7. Distinguish between drift and diffusion current.
8. Draw the symbols of NPN and PNP transistors.
9. List different types of filter circuits used along with rectifier.
10. List the materials used in screen printing.

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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) Explain the working of rheostat and mention its applications. 5
(b) Explain the effect of temperature on resistance. 5
- 12.** Compare the properties, range of values and applications of paper and electrolytic capacitors.
- 13.** Explain the constructional features of RF transformer.
- 14.** Explain the working of toggle and push button switches with their ratings and applications.
- 15.** (a) Distinguish between Zener and avalanche breakdowns.
(b) Explain the characteristics of Zener diode under reverse bias with a diagram.
- 16.** (a) Compare the performance characteristics of CF, CE and CC transistor configurations.
(b) Derive relationship between alpha, beta and gamma of transistors.
- 17.** Derive the expressions for RMS value, average value, ripple factor and efficiency of a half-wave rectifier.
- 18.** (a) List ratings of condenser and dynamic microphones.
(b) List the various steps involved in screen printing for making PCBs.
