



C16-AEI-105

6012

BOARD DIPLOMA EXAMINATION, (C-16)

MARCH/APRIL—2018

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. Define the term resistance.
2. State the factors affecting the capacitance of a capacitor.
3. Classify inductors.
4. List any three types of switches.
5. Mention any three specifications of loudspeaker.
6. List any three applications of diode.
7. Define extrinsic semiconductor.
8. List transistor configurations.
9. Define form factor of a sinusoidal a.c. quantity.
10. List any three standard PCB specifications.

**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.** Describe the constructional details and working of rheostat and list its any two applications. 10
- 12.** (a) Find an equivalent capacitance when two capacitors are connected in series. 7  
(b) Define dielectric constant of a material. 3
- 13.** Describe the constructional features of AF and RF chokes. 5+5
- 14.** Explain the construction and working of general purpose electromagnetic relay. 10
- 15.** (a) Explain the working of carbon microphone. 5  
(b) Explain the layout scale in PCB layout planning. 5
- 16.** Describe the formation of *P*-type semiconducting material and sketch its energy band diagram. 7+3
- 17.** (a) Explain the working of transistor as an amplifier. 8  
(b) Draw the symbol of *N-P-N* transistor. 2
- 18.** Explain the working of full-wave bridge rectifier circuit with waveforms. 10

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