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C16-AEI-105

**6012**

**BOARD DIPLOMA EXAMINATION, (C-16)**

**JUNE/JULY—2022**

**DAEI - FIRST YEAR EXAMINATION**

**ELECTRONIC COMPONENTS AND DEVICES**

*Time : 3 hours ]*

*[ Total Marks : 80*

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**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 any three specifications of a resistor.
2. Define the term capacitance.
3. Draw the symbols of iron core, air core and ferrite core inductors.
4. Classify switches according to poles and throws.
5. State the need for a horn loud speaker.
6. Draw the symbols of Zener diode, Varactor diode, and Tunnel diode.
7. Define intrinsic and extrinsic semiconductors.
8. Draw the symbols of PNP and NPN transistors.
9. Define voltage regulation.
10. State the need of PCB in electronic equipment.

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## PART—B

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

11. (a) Derive the expression for the equivalent resistance when two resistors are connected in parallel. 6  
(b) Three resistors 10 ohms, 20 ohms and 30 ohms are connected in series. What is the equivalent resistance? 4
12. (a) Define dielectric constant and dielectric strength of a material. 6  
(b) List any four common faults in capacitors. 4
13. (a) Explain the constructional features of AF choke with diagram. 6  
(b) List any four applications of chokes. 4
14. Explain the construction and working of general-purpose electromagnetic relay with diagram. 10
15. (a) Explain the working of carbon microphone with diagram. 5  
(b) Explain the process of cleaning of PCB. 5
16. Explain the working of PN junction diode with various biasing voltages. 10
17. Explain the working of transistor as amplifier in CE configuration. 10
18. Explain the operation of simple Zener regulator with diagram. 10

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