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C16-AEI-105

6012

BOARD DIPLOMA EXAMINATION, (C-16)

JANUARY/FEBRUARY—2022

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 dielectric constant of a material.
2. Define the term resistance.
3. List any three core materials used in inductors.
4. Mention any three ratings of fuse.
5. Define microphone.
6. List any three applications of diode.
7. Define extrinsic semiconductor.
8. List different transistor configurations.
9. State the need for a regulated power supply.
10. List the materials used in soldering.

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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. Explain the construction and working of rheostat with diagram. 10
12. (a) Derive the expression for equivalent capacitance of two capacitors connected in series with diagram. 6
- (b) Find the equivalent capacitance of 6 mF and 4 mF capacitors are connected in parallel. 4
13. Explain the constructional features of AF choke with diagram. 10
14. Explain the construction and working of general purpose electromagnetic relay with diagram. 10
15. Explain the formation of PN junction diode with diagram. 10
16. Explain the working of transistor as amplifier in CE configuration with diagram. 10
17. Explain the working of bridge rectifier circuit with waveforms and diagram. 10
18. (a) Explain the PCB layout scale with diagram. 5
- (b) Explain the principle of operation of PMMC loud speaker with diagram. 5

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