



C14-AEI-303

4216

BOARD DIPLOMA EXAMINATION, (C-14)
SEPTEMBER/OCTOBER - 2020
DAEI—THIRD SEMESTER EXAMINATION
ELECTRONIC DEVICES AND APPLICATIONS

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. State the electrical properties of solid semiconductor materials.
2. List the applications of Zener diode.
3. Define rectification.
4. Draw the circuit symbols of *N-P-N* and *P-N-P* transistors.
5. List the operating regions of transistors.
6. Give the classification of FETs.
7. List the applications of UJT.
8. Draw the battery charger circuit using SCR.

- * 9. Draw the symbols of DIAC and TRIAC.
10. List the applications of operational amplifier.

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. Explain the working of *P-N* junction diode with various biasing voltages.
12. Explain the working of Half-wave rectifier with circuit diagram and waveforms.
13. (a) Distinguish between Zener breakdown and Avalanche breakdown.
(b) Draw the pin diagram and circuit symbol of operational amplifier.
14. Derive the relationship among Alpha, Beta and Gama factors.
15. Explain the working of transistor as an CE amplifier.
16. Explain the working principle of CMOSFET.
- * 17. Explain light dimmer circuit using Diac with diagram.
18. Explain the working of SCR with diagram and draw the volt-ampere characteristics.
