



C14-AEI-303

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BOARD DIPLOMA EXAMINATION, (C-14)
MARCH/APRIL—2018
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. Sketch the energy level diagrams for conductors, semiconductors insulators.
2. List any three applications of Zener diode.
3. Define rectification.
4. List the operating regions of transistor.
5. Write collector current expression in CB and CE modes of transistor.
6. Draw the symbols of FET and MOSFET.
7. Write the expression for intrinsic stand-off ratio.
8. Draw the volt-ampere characteristics of DIAC.

- * 9. List any three applications of SCR.
- 10. Draw the pin diagram 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 criteria for valuation are the content but not the length of the answer.

- 11. Explain the working of *P-N* junction diode with various biasing voltages.
- 12. (a) Distinguish between intrinsic and extrinsic semi-conductors. 5
 (b) Explain the working of series diode clipper circuit with waveforms. 5
- 13. Explain the working of *N-P-N* transistor with diagram.
- 14. (a) Sketch the input/output characteristics of transistor in CE configuration. 5
 (b) Compare the performance characteristics of transistor in CB, CE and CC configurations. 5
- 15. Explain the construction and working of JFET with diagram.
- 16. Explain construction and working of triac with diagram.
- * 17. Explain the battery charger circuit using SCR with diagram.
- 18. (a) List the types of IC based on integration. 5
 (b) Explain the working of positive clipper circuit using diodes. 5
