C16-EE–305

6241

BOARD DIPLOMA EXAMINATION, (C-16)

OCTOBER/NOVEMBER—2023

DEEE - THIRD SEMESTER EXAMINATION

ELECTRONICS

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 P-type and N-type semiconductors.

2. List the manufacturer specifications of Zener diode.

3. Compare center tapped and bridge type full-wave rectifier.

4. Draw the circuit diagram of Zener voltage regulator.

5. What are the applications of LCD?

6. Explain the working principle of phototransistor.

7. State the necessity of proper biasing for transistor amplifier action.

8. What is the necessity of cascading of amplifier?

9. List the applications of emitter follower.

10. What is the need for power amplifier?

PART—B

10×5=50

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 working of PN junction diode with no bias, forward bias and reverse bias.

12. Draw and explain the working of centre tapped full-wave rectifier with waveforms.

13. Explain the construction and working of JFET and draw its drain characteristics.

14. Explain the construction and working of SCR and draw its V-I characteristics.

15. Explain the method of self-bias and list the advantages.

16. *(a)* Explain the operation of transistor as an amplifier.

(b) Classify amplifiers on the basis of period of conduction and number of stages.

17. Explain the working of RC coupled amplifier with a neat circuit diagram and draw its frequency response curve.

18. Draw the block diagrams of voltage series, voltage shunt, current series and current shunt feedback amplifiers.

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