6241

BOARD DIPLOMA EXAMINATION, (C-16)

JUNE/JULY—2022

DEEE - THIRD SEMESTER EXAMINATION

ELECTRONICS ENGINEERING - I

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. Distinguish between intrinsic and extrinsic semiconductors.

2. Draw the output characteristics of transistor in CB configuration.

3. List different types of filters used in power supplies.

4. Draw the circuit diagram of Zener voltage regulator.

5. What are the applications of solar cell.

6. Draw the circuit symbols of UJT and SCR.

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

8. Mention the applications of amplifiers.

9. Distinguish between voltage and power amplifier.

10. Distinguish between degenerative and regenerative feedback.

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 working of PN junction diode in forward bais and reverse bias.   10

12. Draw and explain the working of half-wave rectifier with waveforms. 10

13. Explain the construction and working of n-channel JFET with neat diagram.   10

14. Explain the construction and working of photodiode with neat diagram.   10

15. Explain the collector to base biasing method with diagram.   10

16. *(a)* Explain the operation of transistor as an amplifier.   5

   (b) Classify amplifiers on the basis of frequency and type of load. 5

17. Draw and explain the working of two-stage RC coupled amplifier. 10

18. Explain the effect of negative feedback on gain, bandwidth, noise and distortion.   10

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