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C23-EE–304

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BOARD DIPLOMA EXAMINATION, (C-23)

OCTOBER/NOVEMBER—2025

DEEE – THIRD SEMESTER EXAMINATION

ELECTRONICS ENGINEERING

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. Draw circuit symbols of *(i)* PN junction diode and *(ii)* MOSFET.

2. State the applications of FET.

3. Define rectifier.

4. List the different types of filters used in power supplies.

5. List the applications of amplifiers.

6. Define the term feedback.

7. Classify the oscillators.

8. State the need of AF oscillator.

9. List the advantages of integrated circuits.

10. Define virtual ground.

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 and VI characteristics of Zener diode. 10

12. State the different configurations of transistors and plot the input and output characteristics of transistor in CE configuration. 10

13. Explain the working of half wave rectifier with neat waveforms. 10

14. Explain the operation of transistor as an amplifier with circuit diagram. 10

15. *(a)* Explain the need of power amplifier. 5

(b) Explain about Barkhausen criterion in oscillator. 5

16. Explain the working of Colpitt's oscillator with neat circuit diagram. 10

17. Explain the working of OP-AMP as integrator. 10

18. Draw the pin diagram of IC 741 and explain each pin. 10

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