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C16-EC–105

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BOARD DIPLOMA EXAMINATION, (C-16)

JANUARY/FEBRUARY—2022

DECE - FIRST YEAR EXAMINATION

ELECTRONIC DEVICES AND POWER SUPPLIES

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. List the applications of thermistors.

2. List the specifications of inductors.

3. Mention the applications of variable capacitors.

4. State the need of fuse in electronic equipment.

5. List the materials used in screen printing.

6. Compare P-type and N-type semiconductors.

7. Draw the V-I characteristics of Zener diode.

8. Sketch the output characteristics of CE configuration.

9. Define Drain resistance and amplification factor of JFET.

10. State the need for DC power supply in electronic circuits.

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 rheostat with a neat sketch and mention its applications.

12. Explain the steps involved in making double sided PCBs.

13. Explain the formation of P-type semiconductor and draw its energy band diagram.

14. Explain the working of PN junction diode under forward and reverse bias.

15. *(a)* Distinguish between Avalanche and Zener breakdown.

(b) Compare performance characteristics of CB, CE, CC configurations.

16. Explain the construction and working of PNP transistor.

17. Explain the construction and working of JFET.

18. With a neat circuit diagram and waveforms explain the working of center tapped full wave rectifier.

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