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C16-EC–105

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BOARD DIPLOMA EXAMINATION, (C-16)

AUGUST/SEPTEMBER—2021

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 specifications of inductors.

2. List the types of variable capacitors and mention their applications.

3. Define resistance and mention different types of resistors.

4. Mention the specifications of relays.

5. List the types of laminates used in PCBs.

6. Distinguish between intrinsic and extrinsic semiconductors.

7. List the specifications of a diode.

8. Compare the performance characteristics of CB and CE configurations.

9. Compare JFET and MOSFET.

10. Explain the significance of bleeder resistor.

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 thermistor and sensistor.

12. Explain the various steps involved in making double-sided PCBs in sequence.

13. Compare conductors, semiconductors and insulators with the help of energy band diagrams.

14. Explain the formation of PN junction diode.

15. *(a)* Draw and explain the characteristics of Zener diode.

(b) Explain the working of transistor as a switch.

16. *(a)* Sketch the input and output characteristics of CE configuration.

(b) Show and explain cut-off, saturation and active regions.

17. Explain the construction and working of JFET.

18. With a neat circuit diagram and waveforms explain the working of half-wave rectifier.

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