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C16-EC–105

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BOARD DIPLOMA EXAMINATION, (C-16)

JUNE/JULY—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 specifications of resistors.

2. Mention the applications of thermistors and sensistors.

3. Define dielectric constant and dielectric strength.

4. Mention the use of MCB.

5. List the soldering methods of PCBs.

6. Distinguish between intrinsic and extrinsic semiconductors.

7. Mention the applications of diode and Zener diode.

8. Define alpha, beta and gamma of a transistor.

9. List the advantages of JFET over BJT.

10. Compare half-wave and full-wave rectifiers.

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 in detail how to determine the value of resistor using colour code with appropriate table and diagram. 7+3

12. Explain the steps involved in making double sided PCBs. 10

13. Explain the formation of N type semiconductor and draw its energy band diagram. 8+2

14. Explain the working of diode under forward and reverse bias. 5+5

15. *(a)* Distinguish between avalanche and Zener breakdown. 5

(b) Draw and explain the output characteristics of CE configuration. 5

16. Explain the construction and working of NPN transistor with necessary diagram. 7+3

17. Explain the construction and working of *n* channel JFET with a neat sketch. 3+7

18. Explain the working of full-wave rectifier with center tapped transformer with a neat circuit diagram and waveforms. 3+2+5

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