



C16-EC-105

6032

BOARD DIPLOMA EXAMINATION, (C-16)

OCT/NOV—2017

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. Classify types of resistors.
2. List the types of core materials used at different frequency ranges.
3. Define the term capacitance.
4. Draw the ISI symbols of SPST, SPDT, DPST, DPDT switches.
5. List the materials used in soldering.
6. What is meant by doping? List majority and minority carriers in P- and N-type semiconductors.
7. List the applications of Zener diode.
8. Obtain the relation between , factors.
9. List the advantages of JFET over BJT.
10. Draw the circuit of a full-wave bridge rectifier.

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PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- 11.** (a) Explain the colour coding of resistors. 7
(b) Find the colour code for the resistance of 0.1 1%. 3
- 12.** List the steps involved in the preparation of double sided PCB and explain them.
- 13.** (a) Write the differences among conductors, insulators and semiconductors. 5
(b) Write the differences between intrinsic and extrinsic semiconductors. 5
- 14.** (a) Describe the construction and working of Zener diode. 3+4
(b) Sketch the characteristics of Zener breakdown. 3
- 15.** (a) Explain diode equation. 5
(b) Explain the transistor as a switch. 5
- 16.** Explain the construction and working of PNP and NPN transistors. 5+5
- 17.** (a) Explain the construction and operation of N channel JFET. 3+4
(b) Draw the drain characteristics of JFET. 3
- 18.** (a) Explain the working of full-wave centre-tapped rectifier with a neat circuit diagram and waveforms. 8
(b) Explain the significance of bleeder resistor. 2
