



**C16-EC-105**

**6032**

**BOARD DIPLOMA EXAMINATION, (C-16)**

**OCTOBER—2020**

**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. Give the specifications of resistors.
2. List the applications of AF and RF chokes.
3. State the different types of variable capacitors.
4. List the different types of connectors.
5. List the soldering methods of PCB.
6. Distinguish between drift current and diffusion current.
7. Draw the energy band diagram of P-N junction diode.
8. Draw the different transistor configurations.
9. Compare JFET and MOSFET.
10. What is the significance of bleeder resistor?

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[ *Contd....*

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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 criteria for valuation are the content but not the length of the answer.

- 11.** (a) List the specifications of a capacitor and state their importance. 6  
(b) Define the dielectric constant and dielectric strength of a material. 4
- 12.** Explain the process of etching, cleaning and drilling in fabrication of PCB. 10
- 13.** Describe the formation of N-type and P-type semiconductor materials. 5+5
- 14.** Describe the construction and working of Zener diode and sketch the V-I characteristics. 7+3
- 15.** (a) Compare the different transistor configurations. 4  
(b) Sketch the input and output characteristics of transistor in CE mode and indicate different regions. 6
- 16.** (a) Explain the formation of transistor. 5  
(b) Mention the applications of P-N junction diode and Zener diode. 5
- 17.** Describe the construction and working of enhancement n-channel type MOSFET. 5+5
- 18.** With a neat sketch explain the working of centre tap full wave rectifier with CRC filter and draw the wave forms. 4+4+2

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