



C16-EC-105

5029

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

JUNE - 2019

**DECE – FIRST YEAR EXAMINATION
BASIC ELECTRONIC COMPONENTS AND MATERIALS**

Time : 3 Hours]

[Total Marks : 80

PART - A

2×15=30

- Instructions :**
- (1) Answer any 15 questions.
 - (2) Each question carries 2 marks.
 - (3) Answer should be brief and straight to the point and shall not exceed five simple sentences.

- 1 Define the following terms (i) Strength (ii) Ductility
- 2 State the factors affecting the capacitance of a capacitor.
- 3 What are the preferred values of resistors ?
- 4 What is meant by stray inductance ?
- 5 What are PTC and NTC thermistors ?
- 6 What is the function of a transformer ?
- 7 Distinguish between auto transformer and two winding transformer.
- 8 List the specifications of transformer.
- 9 What is a fuse and what is the need of the fuse ?
- 10 State the standard PCB specifications.
- 11 State the parts of a file with sketch.
- 12 What is the use of flux in soldering ?
- 13 State the specification of microphones.
- 14 State the advantages of horn loud speaker.
- 15 Distinguish between intrinsic and extrinsic semiconductors.

5029]

1

[Contd...

- 16 List the applications of PN junction diode.
- 17 Sketch the circuit symbols of PNP and NPN transistor and label bias voltages for each.
- 18 Define the terms alpha and beta.
- 19 Define peak inverse voltage. What are the values of peak inverse voltage for half-wave rectifier and full-wave rectifier ?
- 20 What is the need for a filter in power supplies ?

PART - B**10×5=50**

Instructions :

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

- 21 (a) Define an alloy and explain the need for alloying. **4**
- (b) Explain superconductivity phenomenon and also give the application of superconductor. **6**
- 22 (a) Explain how a resistance value is coded using colour code. **6**
- (b) Define the term dielectric strength and dielectric constant. **4**
- 23 (a) Explain the construction and working of general purpose electromagnetic relay. **7**
- (b) Draw the ISI symbols of various switches. **3**
- 24 (a) Explain the steps involved in preparation of single sided PCB. **6**
- (b) Explain different types of soldering methods. **4**
- 25 Explain the construction features and principle of operation of Permanent Magnet Moving Coil (PMMC) Loudspeaker
- 26 (a) Distinguish between zener and avalanche breakdown. **3**
- (b) Explain the formation of N-type semiconductor material. **7**
- 27 (a) Obtain the relation between alpha and beta. **4**
- (b) Draw and explain the input and output characteristics of transistor in CE mode. **6**
- 28 Draw and explain the working of full wave bridge rectifier with input and output waveforms.