



C-16-EC-105

5029-A

**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 soft and hard magnetic materials.
- 2 List the specifications of a resistor.
- 3 Draw the symbols of air core and iron core inductors.
- 4 State the factors affecting the capacitance of a capacitor.
- 5 Define working voltage of a capacitor.
- 6 Write the emf equation of transformer.
- 7 Mention the losses in transformers.
- 8 State the relation between voltage ratio, current ratio and turns ratio in transformers.
- 9 Draw the I.S.I symbols of various switches.
- 10 Classify PCB's.
- 11 List important hand tools used in the electronic workshop.
- 12 Define soldering and brazing.
- 13 Mention the use of woofers.

5029-A]

1

[Contd...

- 14 List the specifications of microphones.
- 15 Sketch energy level diagrams for conductors and insulators.
- 16 Distinguish between drift and diffusion currents.
- 17 Draw the symbols of NPN and PNP transistors and indicate the terminals.
- 18 Define alpha, beta and gamma of a transistor.
- 19 Define voltage regulation.
- 20 State the need for a regulated power supply.

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) Explain the terms Hysteresis and Hysteresis loss. | 6 |
| | (b) Distinguish between conductors, insulators and semiconductors. | 4 |
| 22 | Explain the construction and working of rheostat. | |
| 23 | Explain the construction and working of general purpose electromagnetic relay. | |
| 24 | (a) Describe the steps involved in making double sided PCB's. | 7 |
| | (b) List the types of laminates used in PCB's. | 3 |
| 25 | Explain the constructional features and principle of operation of PMMC loud speaker. | |
| 26 | Describe the working of PN junction diode in forward bias and reverse bias. | |
| 27 | Compare CB, CE and CC configurations of a transistor. | |
| 28 | Explain the working of Full wave rectifier circuit with waveforms. | |