



C09-EC-105

**3031**

**BOARD DIPLOMA EXAMINATION, (C-09)**

**MARCH/APRIL—2018**

**DECE—FIRST YEAR EXAMINATION**

**BASIC ELECTRONICS**

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. Define cycle, frequency and time period for sinusoidal AC quantity.
2. Draw the symbols of resistor, potentiometer and thermistor.
3. List the applications of electrolytic capacitors.
4. What is a relay?
5. List different types of baffle.
6. What are intrinsic and extrinsic semiconductor materials?
7. Sketch the forward and reverse bias characteristics of a diode.
8. Define  $I_{CBO}$  and  $I_{CEO}$ .
9. State the applications of miniature button cells.
10. List the applications of induction motor.

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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 necessity of preferred values in resistor. 5  
(b) Distinguish between carbon and wire wound resistors. 5
- 12.** Find the expression for the equivalent inductance when two inductors are connected in series aiding.
- 13.** (a) Explain the working of push button switch with a neat sketch. 5  
(b) List the applications of push button and toggle switches. 5
- 14.** Explain the working of crystal microphone with a neat sketch.
- 15.** Describe the formation and working of Zener diode.
- 16.** Explain the working of *P-N-P* transistor.
- 17.** (a) List the applications of transformers. 5  
(b) Explain the working principle of EHT transformer. 5
- 18.** (a) Explain the working principle of DC motor. 5  
(b) Explain the necessity of a starter for starting the motor. 5

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