C09-EC-105

3031

BOARD DIPLOMA EXAMINATION, (C-09)

MARCH / APRIL - 2019

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) Answer should be brief and straight to the point.

1 Define electric field intensity.

2 Write the color code of 560Ω ± 10% carbon resistor.

3 Find the equivalent inductance when two inductors of 10 mH and 20 mH are connected in series aiding with a mutual inductance of 5 mH.

4 Define operate current and release current of a relay.

5 List the different types baffles.

6 List the electrical properties of semiconductors.

7 What is Zener breakdown ?

8 List the performance characteristics of Common Base configuration.

9 List any three specifications of a transformer.

10 Define efficiency of a DC machine.

PART - B 10×5=50

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

11 (a) Describe the working of a rheostat and mention its applications. **5**

(b) Explain the effect of temperature on resistance. **5**

12 (a) List the applications of Mica and Electrolytic capacitors. **5**

(b) Find equivalent capacitance when three capacitors of 5, 10, 15 micro farads are connected in : **5**

(1) Series

(2) Parallel

13 (a) Sketch the ISI Symbols of DPST, DPDT, Push button and rotary switches. **5**

(b) List the different types of Connectors. **5**

14 Explain the working of condenser microphone with a neat sketch.

15 Explain the working of PN junction diode under forward and reverse bias.

16 Explain the working of NPN transistor.

17 (a) Explain about maintenance free batteries. **5**

(b) Distinguish between primary and secondary cells. **5**

18 Explain the working principle of a single phase induction motor.
