Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 09

B.Tech. (2011 to 2017) (Sem.–1,2)

BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

Subject Code : BTEE-101

M.Code : 54097

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION - B & C. have FOUR questions each.**
3. **Attempt any FIVE questions from SECTION B & C carrying EIGHT marks each.**
4. **Select atleast TWO questions from SECTION - B & C.**

SECTION-A

1) Answer following questions :

a) Define Temp, coefficient of resistance & give its units.

b) Define R.M.S. value of A.C.

c) Give the relation between phase & line values of voltage & current for star connection.

d) What is the working principle of D.C. motor?

e) Give the working principle of moving iron instruments.

f) Draw the static characteristics of thyristor.

g) Convert 101011 into Decimal system & Octal system.

h) Write the working principle of Thermistor & Thermocouple.

i) State Faraday's laws of electromagnetic induction.

j) Draw the symbolic representation of BJT and FET.

SECTION-B

2) a) A series circuit consists of a 115Ω resistor, a 0.024 μF capacitor and coil of inductance L .If the resonant frequency of the circuit is 1000 Hz, determine Inductance and bandwidth.

   b) Compare electric and magnetic circuits. Establish the relationship between magneto motive force, magnetic flux and magnetic reluctance.

3) Draw & explain the phasor diagram of RLC series circuits and give the condition for resonance in this circuit.

4) Explain the working principle & construction of three phase induction motor.

5) Explain the construction & working of induction type energy meter.

SECTION-C

6) What is LVDT? Explain its use for the measurement of displacement.

7) What is Zener Diode? Explain its use as voltage regulator.

8) a) What are the different logic gates? Give their truth tables.

   b) Discuss the working of a full wave rectifier.

9) Draw the equivalent circuit & truth table of RS Flip-Flop.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.