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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 $0.024 \mu\text{F}$ 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 magnetomotive 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.