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Total No. of Questions : 09] [Total No. of Pages : 02

B.Tech. (Sem. - 1st/2nd)

BASIC ELECTRICAL & ELECTRONICS ENGINEERING

SUBJECT CODE : EE - 101 (2K4 & Onwards)

Paper ID : [A0117]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours **Maximum Marks : 60**

Instruction to Candidates:

1) Section - A is **Compulsory.**
2) Attempt any **Five** questions from Section - B & C.
3) Select atleast **Two** questions from Section - B & C.

Section - A

Q1) *(Marks : 2 Each)*

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.

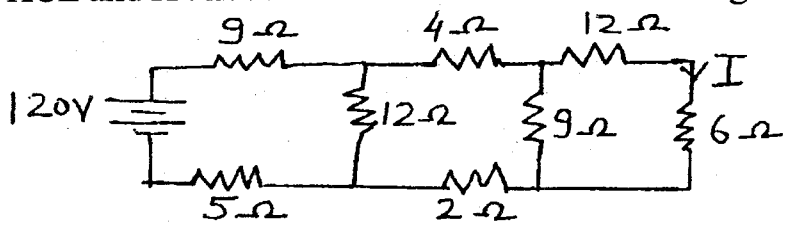
i) State Faraday's laws of electromagnetic induction.

j) Draw the symbolic representation of BJT and FET.

Section - B

(Marks : 8 Each)

Q2) State KCL and KVL. Find the current I in the following circuit using KVL.



Q3) Draw & explain the phasor diagram of RLC series circuit and give the condition for resonance in this circuit.

Q4) Explain the working principle & construction of three phase induction motor.

Q5) Explain the construction & working of induction type energy meter.

Section - C

(Marks : 8 Each)

Q6) What is LVDT. Explain its use for the measurement of displacement.

Q7) What is Zener Diode. Explain its use as voltage regulator.

Q8) Draw & explain the PIN diagram of IC 7400.

Q9) Draw the equivalent circuit & truth table of RS Flip-Flop.