5. (a) Define Active, Reactive and Apparent Power. Also give significance of power factor. (CO2)

OR

(b) Derive the relation between line and phase quantity for delta connection with the help of phasor diagram. (CO2)

H Roll No. .....

TEE–101

B. TECH. (FIRST SEMESTER)

MID SEMESTER EXAMINATION, 2021-22

(All Branches)

BASIC ELECTRICAL ENGINEERING

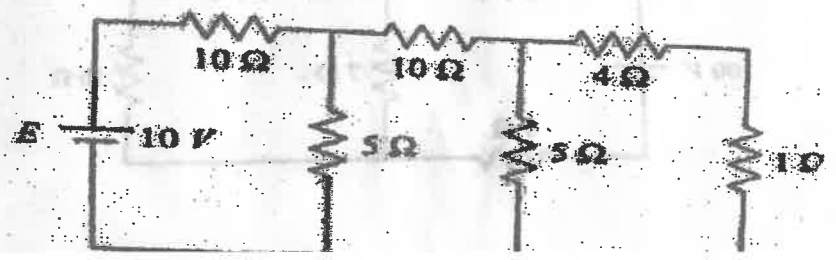
Time : 1 : 30 Hours

Maximum Marks : 50

Note : (i) Answer all the questions by choosing any *one* of the sub-questions.

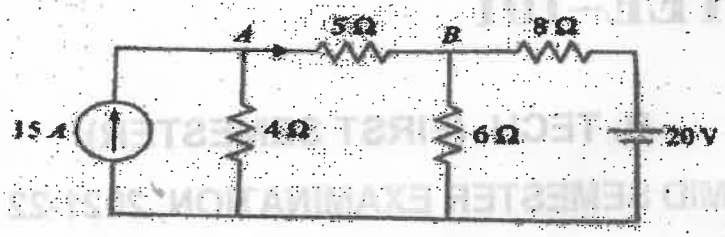
(ii) Each question carries 10 marks.

1. (a) Calculate branch currents using mesh analysis. (CO1)

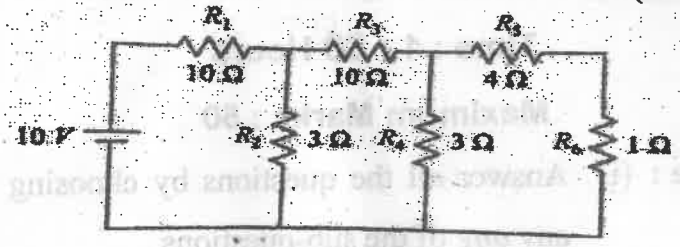


OR

(b) Calculate current across load branch 5 ohm using Thevenin's theorem. (CO1)

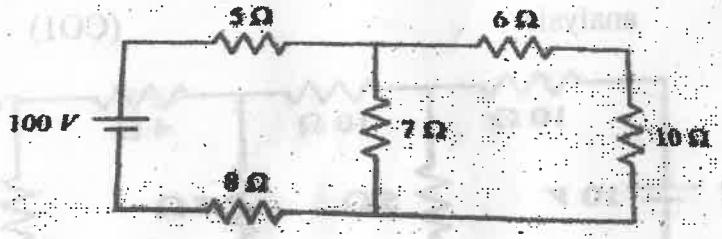


2. (a) Calculate current across each resistor using Nodal Analysis. (CO1)



OR

(b) Calculate current in load branch 10 ohm using Norton's Theorem. (CO1)



3. (a) Derive expression for RMS and Average Value for Half Wave AC. (CO2)

OR

(b) Draw the circuit diagram and give expression for RL, RC and RLC series circuit. (CO2)

4. (a) Define the following :

(i) Kirchhoff's current law

(ii) Active elements

(iii) Linear elements

(iv) Bilateral elements

(v) Kirchhoff's voltage law for DC circuit. (CO1, CO2)

OR

(b) Explain condition for resonance in a RLC series circuit. Derive the expression for resonant frequency. (CO1, CO2)