

(4)

TEE-201

OR

(b) Explain condition for resonance in a RLC series circuit. At resonance current is maximum in a series circuit.

(CO1/CO2)

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 star connection with the help of phasor diagram. (CO2)

TEE-201

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TEE-201

B. TECH. (SECOND SEMESTER)

MID SEMESTER

EXAMINATION, 2021-22

BASIC ELECTRICAL ENGINEERING

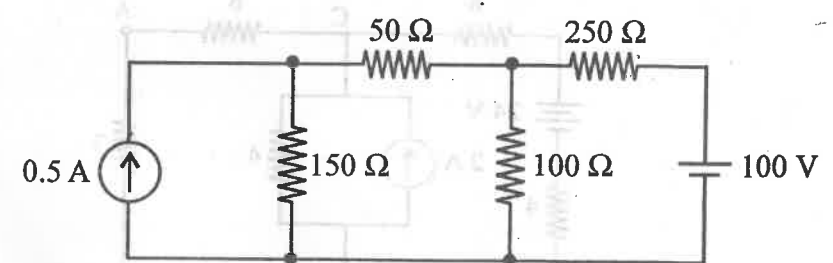
Time : 1½ Hours

Maximum Marks : 50

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

(ii) Each sub-question carries 10 marks.

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



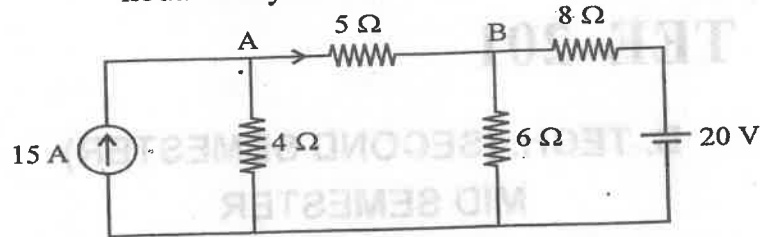
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(2)

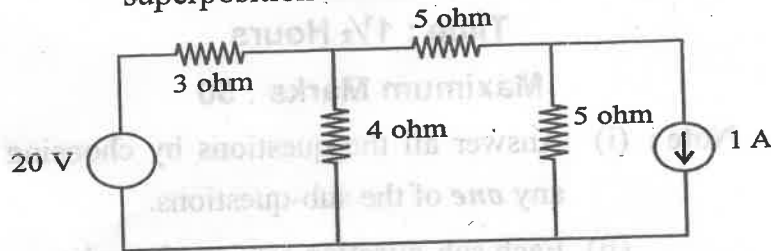
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OR

- (b) Calculate current across 5 ohm using nodal analysis : (CO1)

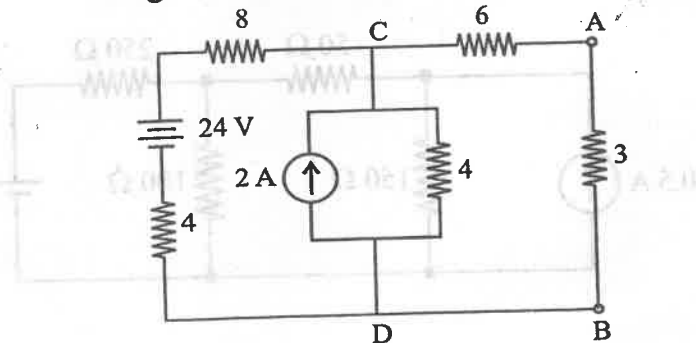


2. (a) Calculate current across 4 ohm using superposition theorem : (CO1)



OR

- (b) Calculate current in load branch 3 ohm using Thevenin's theorem : (CO1)



(3)

TEE-201

3. (a) Derive expression for RMS and Average Value for Half Wave AC. What is the significance of form and peak factor ?

(CO2)

OR

- (b) An a.c. voltage $V = 200 \sin 528t$ is applied to an equipment offering resistance of 40 ohms to the current flow. Calculate (i) R. M. S. value, (ii) Average value, (iii) Form factor, (iv) Peak factor. (CO2)

4. (a) Define the following : (CO1/CO2)

- (i) Phase
- (ii) Phase Difference
- (iii) Form Factor
- (iv) Peak Factor
- (v) Frequency
- (vi) Passive Elements
- (vii) Bilateral Elements
- (viii) Mesh and Loop
- (ix) Junction and Node
- (x) Electrical Circuit

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