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Roll No.

TEE-101

B. TECH. (FIRST SEMESTER)

MID SEMESTER

EXAMINATION, Jan., 2023

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) Define the following : (CO1)

(i) Distributed Network

(ii) Kirchhoff's Voltage and Current Law

(iii) Lumped Network

(iv) Active Network

(v) Linear Network

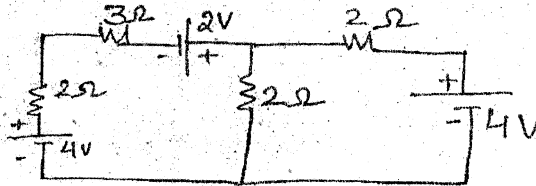
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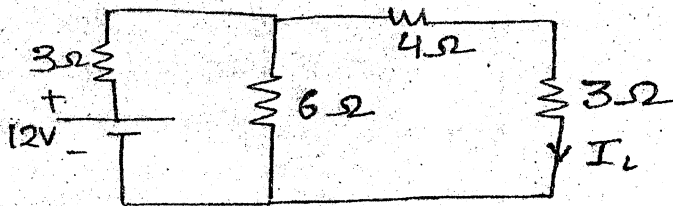
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OR

- (b) Calculate current in all resistors using mesh analysis. (CO1)



2. (a) Calculate current in 30 Ohm resistor using Thevenin's theorem. (CO1)



OR

- (b) State the maximum power transfer theorem and also derive the expression for maximum power delivered. (CO1)
3. (a) Give the statement of Norton's theorem also describe the procedures (step by step) to solve a circuit by Norton's theorem. (CO1)

(3)

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OR

- (b) A pure inductive coil allows a current of 10A to flow from a 230V, 50 Hz supply.

Find : (CO1)

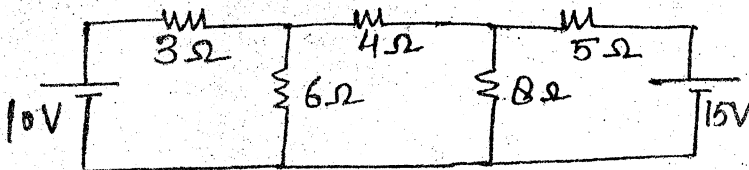
- (i) Inductive reactance
- (ii) Inductance of coil
- (iii) Power Absorbed

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

- (i) RMS value
- (ii) Form Factor
- (iii) Crest Factor
- (iv) Average Value
- (v) Power Factor

OR

- (b) Calculate current in branch using nodal analysis (all branch) : (CO1)



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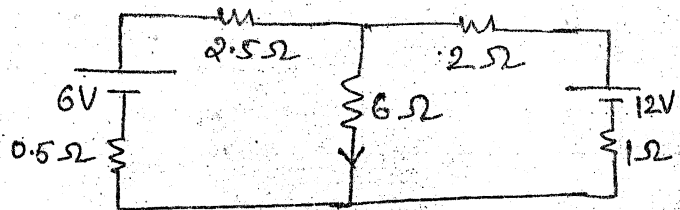
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5. (a) Define active, reactive and apparent power with power triangle and also give significance of power factor. (CO2)

OR

- (b) Calculate current in 6 Ohm resistor using superposition theorem. (CO2)



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