



## Term Evaluation (Even) Semester Examination March 2025

Roll no.....

Name of the Course: B.Tech

Semester: II

Name of the Paper: Basic Electrical Engineering

Paper Code: TEE 201

Time: 1.5 hour

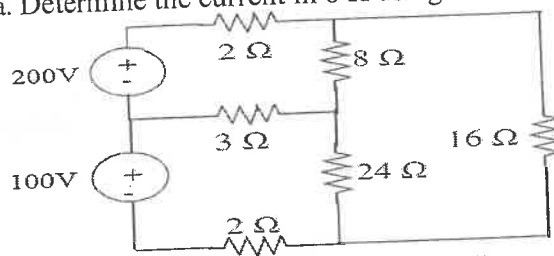
Maximum Marks: 50

### Note:

- (i) Answer all the questions by choosing any one of the sub-questions
- (ii) Each question carries 10 marks.

Q1.

a. Determine the current in  $8\ \Omega$  using mesh analysis.



OR

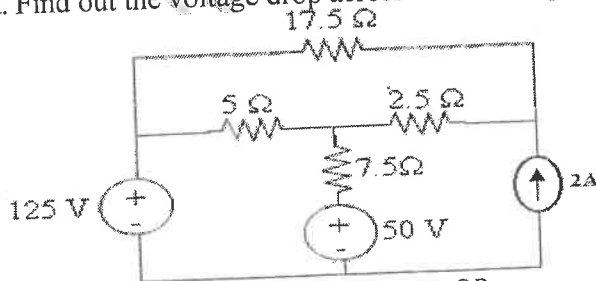
b. How would you define the following terms with suitable examples?

- (i) Voltage
- (ii) Current
- (iii) Ohm's law
- (iv) Node and junction
- (v) Mesh and loop
- (vi) Circuit

CO 1 (10 Marks)

Q2.

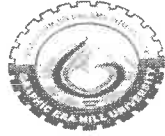
a. Find out the voltage drop across  $17.5\ \Omega$  using Norton's theorem



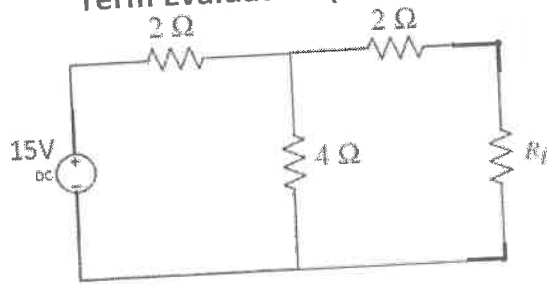
OR

b. State and prove maximum power transfer theorem.  
Find out the value of  $R_L$  for which it can draw maximum power.

CO 1 (10 Marks)



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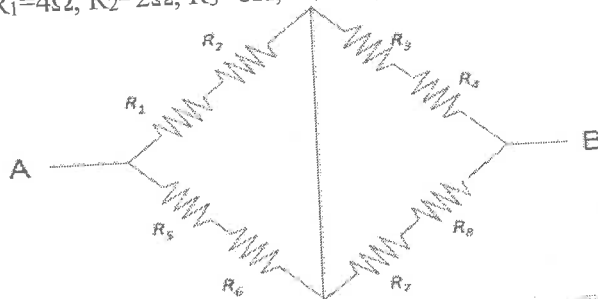


CO 1 (10 Marks)

Q3.

- a. Find out the input current which will flow if a dc source of 15 V is connected across AB in the following circuit.

$R_1=4\Omega$ ,  $R_2=2\Omega$ ,  $R_3=8\Omega$ ,  $R_4=1\Omega$ ,  $R_5=12\Omega$ ,  $R_6=3\Omega$ ,  $R_7=10\Omega$  &  $R_8=5\Omega$



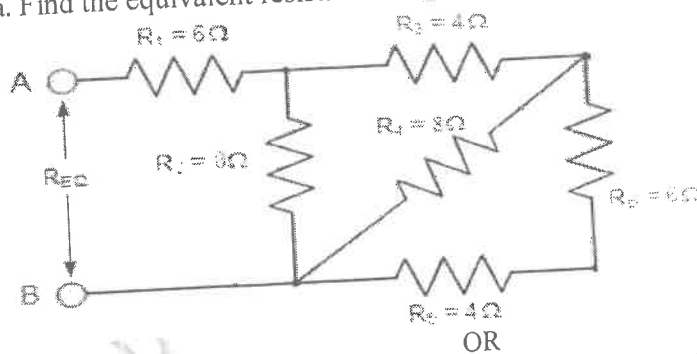
OR

- b. What is star and delta interconnection? Derive the expressions from delta to star transformation.

CO 1 (10 Marks)

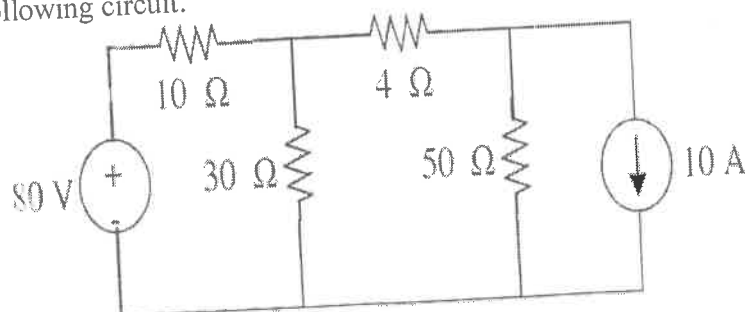
Q4.

- a. Find the equivalent resistance for the circuit shown below



OR

- b. State superposition theorem. Also find out the current in  $4\Omega$  using superposition theorem in the following circuit.





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CO 1 (10 Marks)

Q5.

a. Differentiate the following terms

- (i) Unilateral and Bilateral Elements
- (ii) Short circuit and Open circuit
- (iii) Linear and Non-linear elements
- (iv) Independent and Dependent sources

OR

b. Define KVL and KCL. Find current in  $3\Omega$  resistor using nodal analysis

