Reg.No: | | | | | | | |

SNS College of Technology, Coimbatore-35.
(Autonomous)
B.E/B.Tech- Internal Assessment -I
Academic Year 2023-2024 (Even)
Second Semester
Electrical and Electronics Engineering
23EET102- ELECTRIC CIRCUIT ANALYSIS

A

Time: 1 ½ Hours **Maximum Marks: 50**

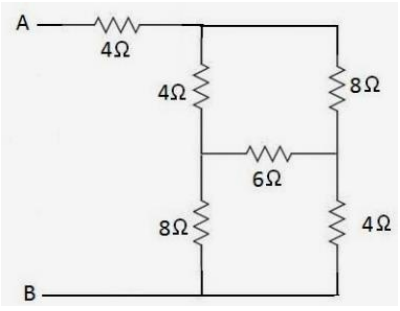
Answer All Questions

PART - A (5x 2 = 10 Marks)

1.	State Ohm's law.		CO1	REM
2.	An Electric iron is rated 1000W, 240V. Find the current drawn & resistance of the heating element.		CO1	REM
3.	Write down the expression of equivalent resistance for 'n' – number of resistors in series connection		CO1	UND
4.	Distinguish between a Loop & Mesh of a circuit analysis.		CO1	UND
5.	State Kirchoff's Current law		CO2	REM

PART - B (13+13+14 = 40 Marks)

6.	(a) Define i) charge ii) electric current iii) power iv) network & v) circuit	13	CO1	APP
	(OR)			
6.	(b) Derive the expression for Delta connected resistances in terms of Star connected resistances?	13	CO1	UND
7.	(a) What are the types of sources? Explain them with suitable diagrams and Characteristics?.	13	CO1	APP
	(OR)			
7.	(b) Find the equivalent resistance between A & B in the given network	13	CO2	APP



8.	(a)	Calculate the instantaneous value, peak value, average value, effective value of Indian standard single phase AC power supply with Waveforms	14	CO1	APP
		(OR)			
8.	(b)	Provide a real-time classroom connected load example to illustrate the differences between KCL and KVL.	14	CO2	APP

*Abbreviations:- **REM**-Remembering, **UND**-Understanding, **APP**-Applying, **ANA**-Analyzing, **EVA**-Evaluating, **CRE**-Creating*

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23EET102- ELECTRIC CIRCUIT ANALYSIS

B

Time: 1 ½ Hours **Maximum Marks: 50**

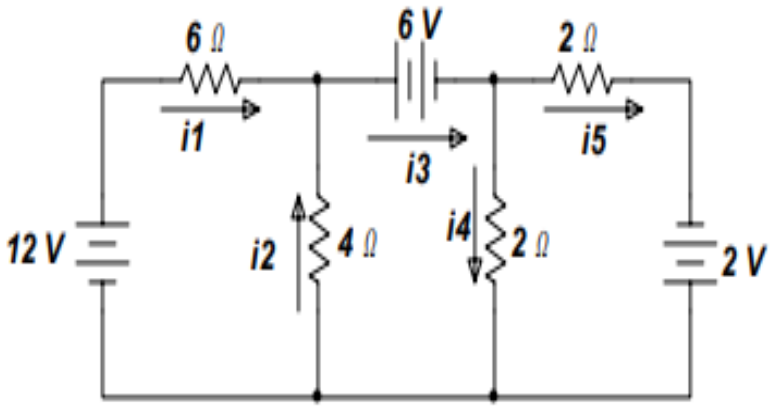
Answer All Questions

PART - A (5x 2 = 10 Marks)

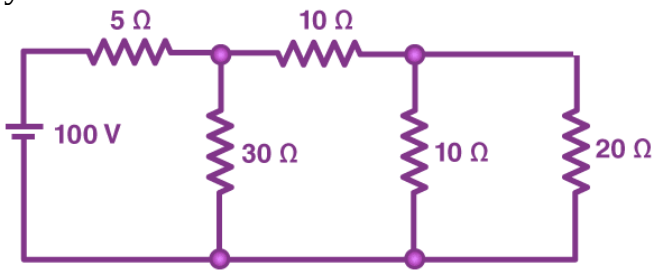
1.	Write down the expression of equivalent resistance for 'n'- number of resistors in parallel connection.		CO1	REM
2.	State Kirchoff's Voltage law		CO1	REM
3.	List the Difference Between Star and Delta Connection.		CO1	UND
4.	Identify the limitations of Ohms law.		CO1	UND
5.	Distinguish between network & circuit.		CO2	REM

PART - B (13+13+14 = 40 Marks)

6.	(a) Define i) Waveforms ii) instantaneous value iii) peak value iv) average value v)effective value.	13	CO1	APP
	(OR)			
6.	(b) Find the current value flowing each resistor and also the find the voltage drops across 4-ohm resistor by using mesh or nodal analysis.	13	CO1	APP



7.	(a) Determine the voltage at each node of the given circuit using nodal analysis.	13	CO1	APP

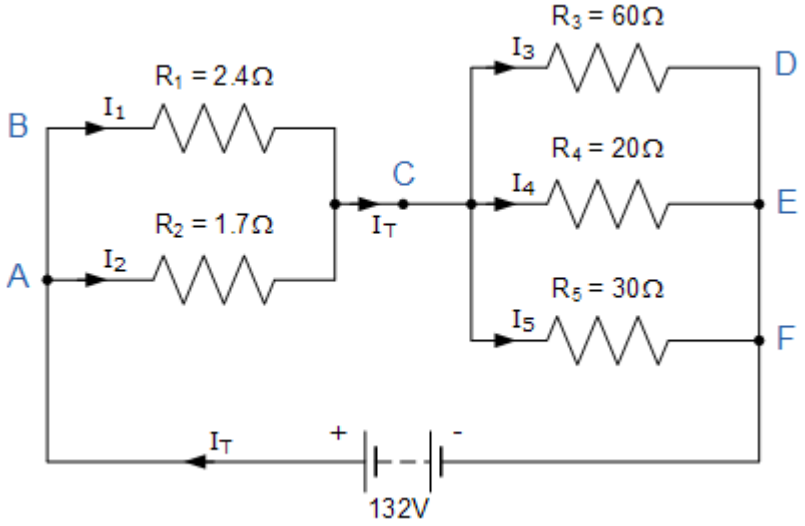


(OR)

7.	(b) Utilizing voltage and current division rules and a real-time example, conclude by discussing network reduction approaches.	13	CO2	APP
8.	(a) Derive the expression for Delta to Star transformation with proper example	14	CO2	UND

(OR)

8.	(b) Find the Kirchhoff's Current Law Equivalent Circuit for the below network.	14	CO2	APP



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