Q.P. Code: 20EE0250 **R20**

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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech I Year I Semester Supplementary Examinations November-2021

PRINCIPLES OF ELECTRICAL ENGINEERING

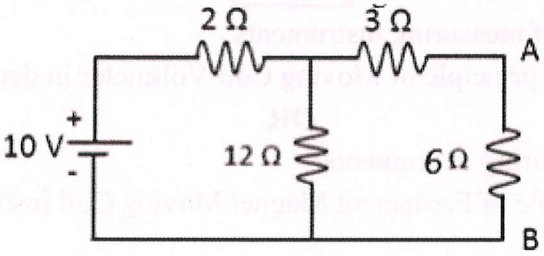
[Common to CSE, CSIT, CSE (AI & ML) & CSE (IoT & CS including BCT)]

Time: 3 hours Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

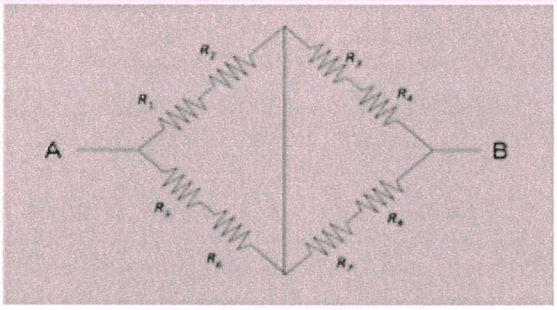
UNIT-I

1	**a**	State and explain Thevenin's theorem.	**L1**	**6M**
	b	Draw the Nortons equivalent circuit for the circuit shown in figure.	**L3**	**6M**



OR

2	**a**	Explain Ohms Law, Dependent and Independent sources briefly.	**L1**	**6M**
	b	Determine equivalent resistance between AB for the circuit shown below.	**L2**	**6M**

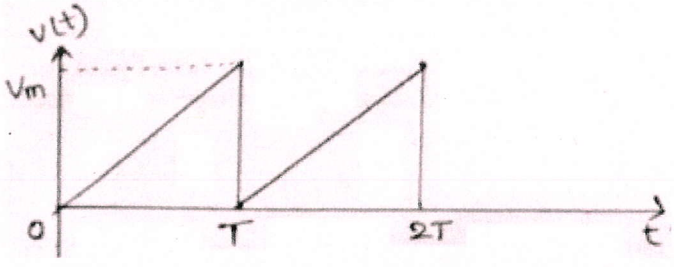


UNIT-II

3	**a**	Derive an expression for the current, impedance and phase angle of (i) series RL and (ii)series RC circuit when it excited by alternating supply.	**L2**	**6M**
	b	Define the following terms (i) Impedance (ii) Admittance (iii) Alternating Voltage	**L1**	**6M**

OR

4	**a**	Determine RMS for the waveform shown.	**L2**	**6M**



	b	Prove that form factor = 1.11 for sinusoidal wave form.	**L4**	**6M**

UNIT-III

5	a	Explain Faradays Laws of Electro Magnetic Induction.	L1	6M
	b	Explain various losses occur in a single phase transformer.	L3	6M

OR

6	a	List out various methods of speed control.	L3	4M
	b	Explain (i) Flux Control (ii) Armature resistance control methods of DC motor	L2	8M

UNIT-IV

7	a	Explain the Working principle of single –phase transformer.	L1	6M
	b	Discuss Open Circuit test on single phase transformer.	L3	6M

OR

8	a	Explain principle of operation of alternator.	L2	6M
	b	Explain procedure to determine voltage regulation by Synchronous Impedance Method.	L3	6M

UNIT-V

9	a	Classify different types of measuring instruments.	L2	6M
	b	Explain construction and principle of Moving Coil Voltmeter in detail.	L2	6M

OR

10	a	Discuss features of measuring instruments.	L2	4M
	b	Explain operating principle of Permanent Magnet Moving Coil instruments.	L2	8M

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