Course Code: 1910201 **Roll No:** **MLRS-R19**

MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

I B.Tech I Sem Supply End Examination, April 2022

Basic Electrical Engineering

(EEE, CSE, IT)

Time: 3 Hours. **Max. Marks: 70**

Note: 1. Question paper consists: Part-A and Part-B.
2. In Part – A, answer all questions which carries 20 marks.
3. In Part – B, answer any one question from each unit.
Each question carries 10 marks and may have a, b as sub questions.

PART- A

(10*2 Marks = 20 Marks)

1.	a)	Write the formulae for energy store across the inductor and capacitor.	2M	CO1	BL1
	b)	State Kirchhoff's of voltage law.	2M	CO1	BL1
	c)	Define power factor. What is the formula for RL series circuit with AC excitation?	2M	CO2	BL1
	d)	Define resonance. What is the condition for series resonance?	2M	CO2	BL1
	e)	Why transformer rating in KVA but not in KW? Discuss	2M	CO3	BL1
	f)	Define voltage regulation in transformer.	2M	CO3	BL1
	g)	Why single-phase induction motor is not self-starting?	2M	CO4	BL1
	h)	What are the applications of single phase induction motor?	2M	CO4	BL1
	i)	What is the purpose of fuse?	2M	CO5	BL1
	j)	What is earthing? Give the importance of earthing?	2M	CO5	BL1

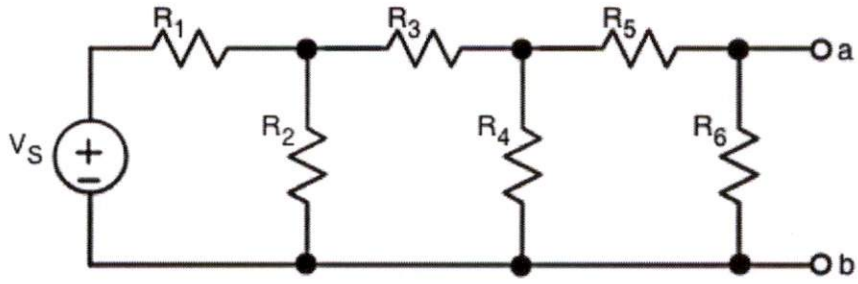
PART- B

(10*5 Marks = 50 Marks)

2	Define Superposition Theorem and verify it on a suitable example.	10M	CO1	BL3

OR

3	For the circuit show below R_1 =6kΩ, R_2 =80kΩ, R_3=4kΩ, R_4=25kΩ, R_5 =4kΩ, R_6 =45kΩ and V_s=40v find the values for Thevenin's equivalent circuit respect to the terminals a and b.	10M	CO1	BL3



4	Define the terms Real Power, Reactive Power, Apparent Power and Power Factor of a A.C circuit with suitable examples.	10M	CO2	BL1
	OR			
5	Explain the series RLC resonance. Define the terms related to resonance.	10M	CO2	BL4
6	Mention various types of losses in a Transformer. Explain the factors influencing these losses.	10M	CO3	BL4
	OR			
7	Write short notes on star-delta connection in three phase transformer.	10M	CO3	BL1
8	Explain the constructional details and principle of operation of a 3-phase Induction motor.	10M	CO4	BL4
	OR			
9	Explain the speed control methods of separately excited dc motor	10M	CO4	BL4
10	Write short notes on i) ELCB and ii) MCCB	10M	CO5	BL1
	OR			
11	What are the types of Batteries? Discuss Important Characteristics for Batteries.	10M	CO5	BL2

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