

Final: 03.12.2021

Course Code: 1920201

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 Section 2(f) & 12(B) of the UGC act, 1956

I B.TECH II Sem Supplementary Examination, December-2021
BASIC ELECTRICAL ENGINEERING
(ECE)

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) Define Active element and give example. | 2M | C01 | BL-1 |
| b) Define time constant and write time constant of RL series circuit. | 2M | C01 | BL-1 |
| c) What is the average value of sinusoidal wave form and define average value. | 2M | C02 | BL-2 |
| d) What is the phase angle between voltage and current in inductor. | 2M | C02 | BL-2 |
| e) What is ideal transformer? | 2M | C03 | BL-3 |
| f) Define regulation. | 2M | C03 | BL-1 |
| g) Define slip. | 2M | C04 | BL-1 |
| h) Write applications of synchronous generators. | 2M | C04 | BL-4 |
| i) What is the purpose of fuse? | 2M | C05 | BL-2 |
| j) What are the types of wires? | 2M | C05 | BL-2 |

PART- B

(10*5 Marks = 50 Marks)

- | | | | |
|--|----|-----|------|
| 2 a) State and explain superposition theorem with example. | 5M | C01 | BL-2 |
| b) State and prove KCL with example. | 5M | C01 | BL-2 |

OR

- | | | | |
|--|-----|-----|------|
| 3 Explain time domain analysis of first order RL circuits. | 10M | C01 | BL-5 |
| 4 Determine RMS value of the sinusoidal wave form. | 10M | C02 | BL-5 |

OR

- | | | | |
|--|-----|-----|------|
| 5 A series circuit consisting of a 10Ω resistor, 100μF capacitor and a 10 mH inductor is driven by 50Hz a.c voltage source of 100 volts. Calculate the equivalent impedance, current in the circuit, voltage drop across each element, power factor and power dissipated in the circuit. | 10M | C02 | BL-3 |
|--|-----|-----|------|

6	Explain working principle of ideal transformer.	10M	C03	BL-5
OR				
7	Explain three phase transformer connections.	10M	C03	BL-5
8	Explain Construction and working of a three-phase induction motor.	10M	C04	BL-5
OR				
9	Describe speed control of separately excited dc motor.	10M	C04	BL-1
10	a) Explain working principle of MCCB	5M	C05	BL-5
	b) Discuss energy calculations for energy consumption.	5M	C05	BL-6
OR				
11	Explain types of wires and cables	10M	C05	BL-5

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BL: Blooms Taxonomy Levels

Note: 1. Font style: Cambria.

2. Bloom's Taxonomy Level (BL) have to mention for each question.

For reference, find the attachment in the mail.