



B.Tech III Semester Supplementary Examinations, July 2024

**BASIC ELECTRICAL ENGINEERING
(ME)**

Maximum Marks: 70

Date: 20.07.2024 Duration: 3 hours

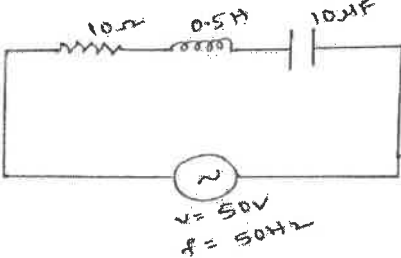
- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks		(10X2M=20 Marks)	CO	Bloom Tx
1	Define Active And Passive Elements.		1	L1
2	State Maximum power transfer theorem		1	L1
3	Define time period		2	L1
4	Define phase difference		2	L1
5	Define transformation ratio		3	L1
6	Explain core losses of the transformers		3	L1
7	Write down the Emf equation of a dc motor.		4	L2
8	What is principle operation of 1-phase induction motor		4	L1
9	Explain about Earthing.		5	L1
10	Explain the terms i) Meter Board ii) Distribution Board		5	L2

Part-B

Answer All the following questions.		(5X10M=50Marks)		
11	Explain derivation of delta-star conversion equations. [10]		1	L2
OR				
12	Find the current response across 3Ω resistor using superposition theorem. [10]		1	L3

13	<p>For the given series RLC circuit find [10]</p> <ol style="list-style-type: none"> 1) Impedance 2) Current 3) Phase angle 4) Voltage across R,L,C 	2	L3
OR			
14	Derive the voltage and current relations in star and delta connections. [10]	2	L2
15	Explain the principle of operation of transformer and derive the Emf equation. [10]	3	L2
OR			
16	Explain about Auto-Transformer with neat diagram. [10]	3	L3
17	Explain the working principle and construction parts of dc machine with neat diagram. [10]	4	L3
OR			
18	Explain the construction and working principle of 1-phase induction motor. [10]	4	L2
19	Explain the different types of MCB'S in details. [10]	5	L2
OR			
20	Explain about service mains, meter board and distribution board in detail. [10]	5	L4