Regulation R20 *Subject code: 3E1AD*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech I Semester Supplementary Examinations, June 2024

BASIC ELECTRICAL ENGINEERING

(Common to CE & EEE)

Maximum Marks: 70 Date:05.07.2024 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.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

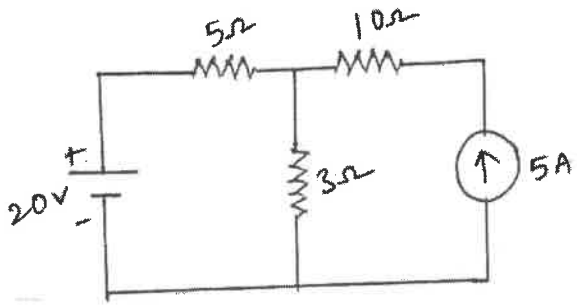
Part-A

All the following questions carry equal marks (10X2M=20 Marks)

Q.NO	QUESTIONS	CO	Blooms Tx
1	State Ohm's law.	CO1	L1
2	State Norton's theorem	CO1	L1
3	Define time period	CO1	L1
4	Define i) form factor ii) peak factor	CO1	L1
5	Define transformation ratio	CO2	L1
6	Explain iron losses of the transformers	CO2	L2
7	Define motor.	CO3	L1
8	Write the Emf equation of a dc generator.	CO3	L1
9	Write about Earthing.	CO4	L2
10	List the types of cables.	CO4	L1

Part-B

Answer All the following questions. (10M X 5=50Marks)

11	State Kirchhoff's voltage law and Kirchhoff's Current law with suitable example. [10M]	CO1	L2
	OR		
12	Find the current response across 3Ω resistor using superposition theorem. [10M] 	CO1	L3

13	Explain following terms: [2MX5=10M] i) form factor ii) peak factor iii) phase difference iv) frequency v)Power factor ?	CO1	L2
	OR		
14	Derive the expression for impedance (Z), phase angle (Θ) and power factor (cosϕ) for RLC series circuit with relevant phasors. [10M]	CO1	L3
15	Explain the principle of operation of transformer and derive the Emf equation. [10M]	CO2	L2
	OR		
16	Explain about Auto-Transformer with neat diagram. [10M]	CO2	L2
17	Explain the constructional features of DC machine with neat diagram. [10M]	CO3	L3
	OR		
18	Explain the working of 3-phase induction motor. [10M]	CO3	L2
19	Explain the different types of MCB'S in details. [10M]	CO4	L2
	OR		
20	Classify the types of batteries and mention the important characteristics of batteries. [10M]	CO4	L2