R22 Regulation *Subject code: 4B1AL*

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 for CSE(DS) & IT)

Maximum Marks: 60 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 (10X1M=10 Marks)

Q.NO	QUESTIONS	CO	Blooms Tx
1 a	State KVL and KCL.	CO1	L2
2 b	State superposition theorem.	CO1	L2
3 c	Define Time period.	CO1	L2
4 d	Define form factor.	CO1	L2
5 e	What is the other name for short circuit test?	CO2	L3
6 f	Draw the equivalent diagram of single phase transformers.	CO2	L3
7 g	Define motor.	CO3	L2
8 h	Define regulation.	CO3	L3
9 i	What is MCB?	CO4	L2
10 j	What are the types of batteries?	CO4	L2

Part-B

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

11 2	Explain derivation of delta-star conversion equations? (10M)	CO1	L3
	OR		
12 3	State and explain the Thevenin's theorem with suitable example. (10M)	CO1	L5
13 4	Derive the expression for average value, RMS value, Form factor and Peak factor of sinusoidal waveform. (10M)	CO1	L5
	OR		
14 5	Estimate the Voltage, current equations of RL series dc circuit. (10M)	CO1	L3
15 6	Construct and explain the working principle operation of single phase transformer. (10M)	CO2	L2
	OR		
16 7	Explain the working of an Auto-Transformer with neat diagram (10M)	CO2	L4

17	Explain the Construction of DC Generator. (10M)	CO3	L3
	OR		
18	A. Derive the E.M.F equation of DC Generator. (5M) B. Write the advantages of synchronous generator. (5M)	CO3	L3
19	Explain in brief the different types of circuit breakers with neat diagrams? (10M)	CO4	L3
	OR		
20	Explain in detail the types of earthing with neat diagrams? (10M)	CO4	L2