R18 Regulation *Subject code: 2P6BB*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, July 2024

ELECTRICAL MEASUREMENTS&INSTRUMENTATION (EEE)

Maximum Marks: 70 Date:22.07.2024 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	Why scales of the gravity control instruments are not uniform but are crowded?	1	L1
2	Explain short notes on loading effect	1	L1
3	Why the secondary of a CT is never left open circuited?	2	L1
4	What are the ratios of instrument transformers?	2	L1
5	What is meant by Phantom Load?	3	L1
6	Explain overload compensation of induction type energy meter	3	L2
7	Write short notes on Owen's bridge	4	L1
8	What are the applications of Wein's bridge?	4	L1
9	Write short notes on Thermo couple?	5	L1
10	Explain the photo diodes.	5	L2
	Part-B		
Answer All the following questions. (5X10M=50Marks)			
11	a) Design and explain the working of PMMC instrument. [5M] b) Write the advantages of using PMMC instrument. [5M]	1	L2
	OR		
12	Explain the principle and operation of electrostatic voltmeter. [10M]	1	
13	Explain the principle and operation of basic slide wire D.C potentiometer. What is standardization of D.C potentiometer. [10M]	2	L2
	OR		
14	Explain the briefly Drysdale polar type A.C potentiometer. Explain measurement of self-reactance of coil. [10M]	2	L2
15	Explain extension of range of wattmeter using instrument transformer. [10M]	3	L2
	OR		
16	Explain the measurement of active and reactive powers in balanced and unbalanced system. [10M]	3	L2

17	Compare Maxwell bridge with Hay's bridge. [10M]	4	L6
	OR		
18	Evaluate the equation of balance of a Schering Bridge. Draw the phasor diagram under null conditions and explain how loss angle of capacitor can be calculated. [10M]	4	L5
19	Explain Strain gauge and its principle of operation. [10M]	5	L2
	OR		
20	Explain photovoltaic and photo conductive cells. [10M]	5	L2