C. U. SHAH UNIVERSITY Winter Examination-2022

Subject Name : Electrical & Electronics Measurement

Subje	ect Code	e : 4TE04EEM1	Branch: B.Tech (Electrical)
Seme	ster: 4	Date: 22/09/2022	Time: 02:30 To 05:30	Marks: 70
(1 (2 (3) Instru) Draw	of Programmable calculator & any oth actions written on main answer book a neat diagrams and figures (if necessa me suitable data if needed.	are strictly to be obeyed.	hibited.
Q-1		Attempt the following questions:		(14)
	b) c) d) e) f) g) h) i) j) k) l) m)	What are the three major categories of What do you mean by Nominal ratio What is wave analyzer? State the limitations of Wheatstone E What is accuracy of a measurement? Define Sensitivity and Resolution. Define quality factor (Q) with referen Define Knee point voltage. List out different errors in energy me State methods for measurements of r What is precision of a measurement? What is multimeter? What are the advantages of instrume Give full form of CRO and define it.	of instrument transformer? Bridge. nce to inductance. eter. nedium resistances.	
	ıpt any	four questions from Q-2 to Q-8		
Q-2	A	Attempt all questions Explain working of Kelvin's doub resistance with neat diagram. Derive	0	(14) of low 07
	В	Explain measurement of unknown bridge. Also draw phasor diagram.		Hay's 07
Q-3	A B	Attempt all questions Explain construction and working pr Derive equation for ratio and phase a		(14) 07 former. 07
Q-4	A B	Attempt all questions Discuss the Varley loop test method Describe the working of low vo		(14) 07 ve the 07



equation for capacitance and dissipation factor.

Q-5	A B	Attempt all questions Explain the construction and operation of flux meter. Explain frequency selective wave analyzer with block diagram.	(14) 07 07
Q-6		Attempt all questions	(14)
-	Α	Describe the method for determination of B-H curve of magnetic material.	07
	B	Explain Heterodyne wave analyzer with block diagram.	07
Q-7		Attempt all questions	(14)
L.	Α	Discuss principle and working of digital LCR meter.	07
	B	What is the importance of the value of Earth's resistance? What are the factors which influence its value? Describe in brief the fall of potential method for measurement of earth resistance.	07
Q-8		Attempt all questions	(14)
τ, °	A	What are the different difficulties encountered in the measurement of high resistance? Explain how to overcome these difficulties.	07
	В	Explain construction and working of current transformer.	07

