Model Question Paper-2 with effect from 2019-20 (CBCS Scheme)

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Fourth Semester B.E. Degree Examination
INSTRUMENTATION AND MEASUREMENTS

TIME: 03 Hours **Max Marks :100**

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

		Module -1	*Bloom's Taxonomy Level	Marks	CO
Q.01	a	Explain the elements of a Generalized Measurement System with a neat block diagram and an example	L3	8	4
	b	Briefly explain analog and digital modes of operation.	L1	5	4
	c	What are Null type instruments and compare them with deflection type of instruments	L2	7	4
		OR			
Q.02	a	Explain in brief the applications of measurement system	L1	5	4
	b	Briefly explain with comparison the different Input-output configurations of measuring instruments and measurement systems?	L3	8	4
	c	Explain the different methods of correction for interfering and modifying inputs with their applications	L2	7	4
		Module-2			
Q. 03	a	What do you understand by Resolution and Sensitivity of an instrument	L1	4	2
	b	Explain dual slope integrating type DVM with expression.	L2	8	2
	c	Explain the universal counter with a neat block diagram explaining the significance of the different blocks	L3	8	2
		OR			
Q.04	a	With help of neat diagrams explain the working of Successive Approximation ADC.	L1	7	2
	b	Explain the working and construction of a Digital Frequency Meter with neat diagrams	L3	7	2
	c	Explain with a neat diagram a Digital multi meter. Mention its importance and applications.	L2	6	2
		Module-3			
Q. 05	a	What is the basic principle of an Oscilloscope?	L1	5	3
	b	Explain in detail all the features of CRT. Explain the different types of sweeps generated	L3	9	3
	c	Explain the working of a Digital storage oscilloscopes	L2	6	3
		OR			
Q. 06	a	Explain in detail the block diagram of CRO with a neat diagram.	L1	5	3
	b	Compare Dual beam and dual trace CROs.	L2	7	3
	c	Discuss in detail the typical CRT connections	L3	8	3

Module-4					
Q. 07	a	Derive the Unbalanced equation for Wheatstone's Bridge and explain how it can be used to measure unknown resistance.	L3	8	2
	b	Mention Advantages and Disadvantages of Maxwell's Bridge	L1	5	2
	c	What is Wagner's earthing device? Explain with a diagram	L2	7	2
OR					
Q. 08	a	Draw the diagram of Maxwell's Bridge and obtain the equations to measure R_x, L_x and Q	L3	8	2
	b	With a neat diagram explain the working of Wien's Bridge.	L2	7	2
	c	What are the applications of Capacitance Comparison Bridge?	L1	5	2
Module-5					
Q. 09	a	Explain the parameters and advantages of a Transducer.	L1	5	3
	b	Explain in detail the Resistance Thermometer with neat diagrams and list the advantages of Resistance Thermometer.	L3	8	3
	c	What is a thermistor? Explain the different types of thermistors	L2	7	3
OR					
Q. 10	a	What are the factors to be considered in the selection of a better transducer?	L1	5	3
	b	Explain LVDT with neat diagrams and relevant graphs	L3	8	3
	c	Explain in brief the Piezoelectric transducers	L2	7	3

*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.