USN | | | | | | | | | | **BAU402**

Fourth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025
Mechanical Measurement and Meteorology

Time: 3 hrs.   Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

			M	L	C
Module – 1					
Q.1	**a.**	Discuss the generalized measuring system with a neat diagram.	10	L2	CO1
	b.	Define : i) Precision ii) Sensitivity iii) Accuracy iv) Hysteresis v) Repeatability.	10	L1	CO1
OR					
Q.2	**a.**	Classify errors, explain any two errors.	10	L4	CO1
	b.	Explain the primary and secondary transducers.	10	L2	CO1
Module – 2					
Q.3	**a.**	Summarize the material length standards with a neat sketch.	10	L2	CO2
	b.	Three 100mm end bars are measured on a level comparator by first wringing them together and comparing with a 300 mm bar. The 300 mm bar has a known error of +40 µm and the three bars together measure 64 µm less than the 300 mm bar. Bar A is 18µm longer than bar B and 23 µm longer than bar C. Find the actual length of each bar.	10	L1	CO2
OR					
Q.4	**a.**	Classify and illustrate the types of fit with a neat diagram.	10	L4	CO3
	b.	Apply the concepts of following in the manufacturing system : i) Interchageabilty ii) Hole basis system.	10	L3	CO3
Module – 3					
Q.5	**a.**	Demonstrate the dial indicator with a neat sketch. Also state the advantages.	10	L3	CO3
	b.	Write a summary of working of Zeiss ultraoptimeter.	10	L2	CO3
OR					
Q.6	**a.**	Discuss the working of a sine – centre with a neat sketch.	10	L2	CO4
	b.	Demonstrate the principle working of an autocollimator.	10	L3	CO4
Module – 4					
Q.7	**a.**	With a neat sketch. Explain the Analytical Balance (Equal arm balance).	10	L2	CO4
	b.	Demonstrate the working principle of Piezo electric transducer.	10	L3	CO1
OR					
Q.8	**a.**	Evaluate the working of Prony brake Dynamometer.	10	L4	CO1
	b.	Demonstrate the working of mechanical strain gauge.	10	L3	CO1
Module – 5					
Q.9	**a.**	Conclude the working of McLeod Gage.	10	L4	CO4
	b.	Describe the optical Pyrometer with a neat sketch.	10	L1	CO1
OR					
Q.10	**a.**	Describe the working of thermocouple vacuum gage.	10	L1	CO4
	b.	Make use of coordinated measuring machine with respect to measuring system.	10	L3	CO1

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