CBCS SCHEME

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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.

		Module – 1	M	L	C
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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