

CBCS SCHEME - Make-Up Exam

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BAU402

Fourth Semester B.E/B.Tech. Degree Examination, June/July 2025 Mechanical Measurement and Metrology

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
1	a.	Explain generalized measurement system with block diagram.	7	L2	CO1
	b.	Define : i) Accuracy ii) Threshold iii) Calibration iv) Hysteresis v) Error	5	L1	CO1
	c.	Give the classification of mechanical transducers with their applications.	8	L1	CO1
OR					
2	a.	With a circuit diagram, explain piezo-electric transducers.	10	L2	CO1
	b.	Sketch and explain the principle of electronic transducer. What are the advantages of electronic transducers?	10	L2	CO1
Module – 2					
3	a.	What is Metrology? What are the objectives of metrology?	7	L1	CO2
	b.	Distinguish between line and end standard.	5	L1	CO2
	c.	Explain subdivision of standards.	8	L2	CO2
OR					
4	a.	Explain the principle of interchangeability and selective assembly.	8	L2	CO2
	b.	With neat sketches, explain different types of fit.	7	L2	CO3
	c.	What is the significance of hole basis system?	5	L1	CO3
Module – 3					
5	a.	Derive Comparator. What is the need of a comparator?	5	L1	CO4
	b.	With a neat sketch, explain dial indicator. What are the advantages?	7	L2	CO4
1 of 2					

	c.	Sketch and explain the working of LVDT.	8	L2	CO4
OR					
6	a.	With a neat sketch, explain the working of sine bar and mention its limitations.	8	L2	CO1
	b.	With a neat sketch, explain the working of auto collimator.	7	L2	CO1
	c.	Explain the working phenomena of slip gauges.	5	L2	CO1
Module – 4					
7	a.	With a neat sketch, explain working of prony brake dynamometer. What are its limitations?	10	L2	CO1
	b.	With a neat sketch, explain Eddy current dynamometer and its advantages.	10	L2	CO1
OR					
8	a.	Explain with neat sketch, electromagnetic flow meter and its applications.	10	L2	CO1
	b.	Explain with neat diagram any ultrasonic flow meter.	10	L2	CO1
Module – 5					
9	a.	With neat sketch, explain McLeod gauge.	10	L2	CO1
	b.	Where pirani gage is used and explain the working principle with sketch.	10	L2	CO1
OR					
10	a.	Explain the working principle of universal measuring machine.	10	L2	CO1
	b.	Explain co-ordinate measuring machine and its applications.	10	L2	CO1
