

CBCS SCHEME

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BAU402

Fourth Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026 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
Q.1	a.	Explain the significance of measurement with generalized measurement system.	10	L1	CO1
	b.	Define the following terms: i) Accuracy ii) Precision iii) Sensitivity iv) Calibration v) Repeatability	10	L3	CO2
OR					
Q.2	a.	Define Transducer. Explain primary and secondary transducers.	10	L3	CO1
	b.	Give brief note on Mechanical and Electrical transducers.	10	L4	CO1
Module – 2					
Q.3	a.	With a proper sketch explain International Prototype Meter.	10	L2	CO2
	b.	Differentiate between Line and end standard.	10	L2	CO1
OR					
Q.4	a.	Explain the principle of interchangeability and selective assembly.	10	L3	CO1
	b.	Brief about the hole basis and shaft basis system.	10	L2	CO2
Module – 3					
Q.5	a.	Sketch and explain Zeiss Ultra-optometer.	10	L4	CO3
	b.	List the types of comparators and explain any two.	10	L3	CO2
OR					
Q.6	a.	Explain the working principle of LVDT.	06	L1	CO3
	b.	Brief on use of sine bars and explain sine center.	08	L2	CO2
	c.	Explain the principle of interferometry.	06	L1	CO3
Module – 4					
Q.7	a.	Explain the use of analytical balance.	06	L2	CO1
	b.	Discuss about various types of dynamometers.	08	L2	CO2
	c.	Give the application of particle image velocimetry.	06	L3	CO1
OR					
Q.8	a.	Discuss about various methods of strain measurement.	10	L2	CO3
	b.	Explain in brief about Electromagnetic and Ultrasonic flow meter.	10	L3	CO4
Module – 5					
Q.9	a.	Sketch and explain bridge man gauge.	10	L3	CO3
	b.	Explain the law of thermocouple. Discuss the importance of using resistance thermometers.	10	L4	CO4
OR					
Q.10	a.	Sketch and explain optical pyrometer.	10	L2	CO1
	b.	Brief on Coordinate Measuring Machine (CMM) and also explain features measurement using CMM.	10	L4	CO2

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