Code No.: ME405PC | R20 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE:: HYDERABAD
UGC AUTONOMOUS
II–B.TECH–II–Semester End Examinations (Regular) - June- 2022
INSTRUMENTATION AND CONTROL SYSTEMS
(MECH)

[Time: 3 Hours] **[Max. Marks: 70]**

Note: 1. Answer *any FIVE questions. Each question carries 14 marks.*
2. All questions carry equal marks.
3. Illustrate your answers with NEAT sketches wherever necessary.

5X14=70

1.	a)	Explain the dynamic characteristics of the measurement system.	[7M]
	b)	Classify measuring instruments. Define linearity and repeatability.	[7M]
2.	a)	Explain thermo couple with a neat sketch. Explain the dynamics involved in the thermocouple in the measurement of temperature.	[7M]
	b)	Explain the basic principle and working of Piezo-Electric transducers.	[7M]
3.	a)	Explain the construction and working of Electrical Tachometer for measuring speed.	[7M]
	b)	Explain with a neat sketch the functioning of Capacitive type liquid level measuring instrument.	[7M]
4.	a)	Explain the working of electrical strain gauge with neat sketch.	[7M]
	b)	Explain the working of mechanical humidity sensing absorption hygrometer.	[7M]
5.	a)	Explain how temperature can be measured by using a closed loop control system with a block diagram.	[7M]
	b)	Explain Servo mechanisms and their importance.	[7M]
6.	a)	Explain important principles of measurement.	[7M]
	b)	Explain the working of LVDT with neat sketch.	[7M]
7.	a)	Explain the working principle of Bimetallic Strip thermometer with a neat diagram.	[7M]
	b)	Explain the working of Mcleod pressure gauge with neat diagram.	[7M]
8.	a)	Explain the working principle and operation of turbine flow meter with neat sketch and also list out its advantages and disadvantages.	[7M]
	b)	Describe the working principle of Bubbler level indicator.	[7M]

****