

2024

Industrial Instrumentation-1

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

Answer any five questions.

1.		What are the static and dynamic performance characteristics of an instrument, explain it?	20
2.	a)	Explain the construction and working principal of bourdon tube pressure gauge with the neat diagram?	10
	b)	Describe the construction and working principle of stroboscope tachometer?	10
3.	a)	Define the terms absolute pressure, atmospheric pressure, vacuum pressure, gauge pressure and absolute vacuum.	10
	b)	Explain the working of pressductor load cell with neat diagram?	10
4.	a)	Explain the construction and working of DC tacho-generator and derive the expression for emf induced?	10
	b)	Discuss the construction and working of LVDT type accelerometer?	10
5.		Explain the pressure measurement for the following categories (i) McLeod gauge (ii) Dead weight tester pressure gauge	20
6.	a)	What is seebeck effect? Explain the cold junction compensation technique?	10
	b)	Explain the working principle of optical pyrometer with neat sketch?	10
7.		Write short notes on the following	4x5=20
	a)	Thermistor	
	b)	U-Tube manometer	
	c)	Laws of thermocouple	
	d)	Bellow type pressure gauge	