Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

EIGHTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2019

Course Code: AE482

Course Name: INDUSTRIAL INSTRUMENTATION

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

			Marks
1	a)	Explain the principle of operation of RTD's	(7)
	b)	With neat sketch explain the operation of pneumatic pyrometers	(8)
2	a)	How can you measure temperature using a thermistor?	(5)
	b)	Explain the principle of operation and pressure measurement process using a)Bourdon tube b) Diaphragm	(10)
3	a)	Explain the principle and operation of Bellows	(7)
	b)	Explain any two method of electro mechanical type pressure measuring devices with neat diagram.	(8)

PART B

Answer any two full questions, each carries 15 marks.

4	a)	With neat sketch explain any two laboratory viscometers	(10)
	b)	Explain any one method of positive displacement liquid flow meter.	(5)
5	a)	Discuss the different types of positive displacement gas flowmeters? Explain with neat diagram.	(10)
	b)	Define Viscosity. What are the different units of Viscosity?	(5)
6	a)	With neat sketch explain any two liquid density measurement methods	(10)
	b)	Explain the significance of flow measurement	(5)

PART C

Answer any two full questions, each carries 20 marks.

7	a)	Explain the operation of any two types of electromagnetic flowmeter with neat sketches	(10)
	b)	Distinguish between the float type and displacer type liquid level gauges. How is the change in the density of the liquid taken into account in these gauges? How is the measurement range limited in the float type system?	(10)
8	a)	What is an anemometer? Explain. List its advantages and disadvantages	(5)
	b)	Explain the operation of laser doppler anemometer with necessary diagram	(5)
	c)	Explain the operation of any two types of ultrasonic level switches with neat diagrams.	(10)

9 a) Explain the principle of operation of radar-non contact and contact type level sensors with neat diagrams. (10)

b) What is purge flow? With necessary diagrams, explain purge flow regulators (10)

****