

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

Sixth Semester B.Tech Degree Regular and Supplementary Examination July 2021

**Course Code: AE304****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 working of Fluidic sensors. (5)
- b) Explain the working of McLeod gauge & Knudsen gauge with neat diagrams. (10)
- 2 a) What are the different types of thermistors? Describe temperature measuring methods using thermistors. (10)
- b) Illustrate how pressure is converted to current using flapper and nozzle assembly. (5)
- 3 a) With neat diagrams explain the working of Pneumatic and Suction pyrometers. (10)
- b) Explain the working of Torque balance type pneumatic transmitters. (5)

**PART B***Answer any two full questions, each carries 15 marks.*

- 4 a) Explain any one method for liquid density measurement (5)
- b) Explain the basics of Flow measurement. List the different types of Flowmeters used. (5)
- c) What is Viscosity? Define Specific viscosity and Relative Viscosity. (5)
- 5 a) Write notes on any two types of Variable area flow meters. (10)
- b) Explain the working of Saybolt Viscometer with suitable diagram. (5)
- 6 a) Describe the working of Oscillating piston type positive displacement flow meter. (6)
- b) Explain the working of any two Gas densitometers. (9)

**PART C***Answer any two full questions, each carries 20 marks.*

- 7 a) Explain about Paddle type flow switch and Capacitance type flow switch. (10)
- b) Describe any two types of Vibrating Level Switches in detail. (10)
- 8 a) Explain the principle and working of Vortex flow meters. List out its advantages. (10)
- b) Explain the working of any two types of Differential pressure level detectors. (10)
- 9 a) Differentiate between Float & Displacer? Discuss about any two Float level devices. (10)
- b) Explain Impeller-Turbine and Twin-Turbine mass flowmeters with neat sketches. (10)

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