

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SIXTH SEMESTER B.TECH DEGREE EXAMINATION(R&S), MAY 2019

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) List the selection criteria for a material to construct an RTD from it. | (3) |
| | b) With proper sketches describe linearization techniques of thermistor. | (9) |
| | c) By giving significance of Fraunhofer lines, explain spectroscopic temperature measurement. | (3) |
| 2 | a) With proper expression, explain how pressure signal can be converted to standard current signal. | (5) |
| | b) By listing the types, discuss any three mechanical type low range pressure measuring instruments in detail. | (10) |
| 3 | a) Explain ultrasonic thermometer. | (6) |
| | b) Explain any two instruments used for low pressure measurement (vacuum). | (9) |

PART B

Answer any two full questions, each carries 15 marks.

- | | | |
|---|---|------|
| 4 | a) Define | (6) |
| | i) viscosity ii) kinematic viscosity iii) specific viscosity iv) relative viscosity | |
| | b) With neat diagrams describe any two types of viscometers. | (9) |
| 5 | With necessary sketches illustrate positive displacement gas flow meters | (15) |
| 6 | a) List the classification of flow meters. | (5) |
| | b) With neat diagrams explain any two densitometers. | (10) |

PART C

Answer any two full questions, each carries 20 marks.

- | | | |
|---|--|------|
| 7 | a) Explain mechanical type anemometer for flow measurement | (10) |
| | b) With schematic explain Ultrasonic flow meters | (10) |
| 8 | What are the different types of displacer level devices. Explain any four types with schematic diagrams. | (20) |
| 9 | a) Explain cross correlation flow meters | (10) |
| | b) Explain magnetic coupled level switch. | (10) |
