

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SIXTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018

Course Code: AE304

Course Name: INDUSTRIAL INSTRUMENTATION (AE)

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

Marks

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| 1 | a) What are the advantages of FOUR WIRE RTD measurement method? | (3) |
| | b) What are the application of P/I converter? | (2) |
| | c) Explain the principle and working of force balance type & torque balance type pneumatic transmitters. | (10) |
| 2 | a) With neat diagram explain the working of a I/P converter. | (7) |
| | b) With neat diagram explain the working of Suction pyrometers. | (8) |
| 3 | a) Explain the working principle of Johnson noise thermometer. | (7) |
| | b) Explain the working of any one mechanical type pressure measuring device. List its advantages. | (8) |

PART B

Answer any two full questions, each carries 15 marks.

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| 4 | a) Explain centrifugal gas densitometer. | (5) |
| | b) Explain diaphragm meter positive displacement flow meter. | (5) |
| | c) Explain rotating vane liquid flow meter. | (5) |
| 5 | a) Explain cone and plate viscometer and rotating cylinder viscometer. | (7) |
| | b) Explain the working principle of Pitot tube. | (8) |
| 6 | a) What is the principle of viscosity measurement? Explain any one viscometer in detail. | (7) |
| | b) Write a note on classification of flow meters. | (8) |

PART C

Answer any two full questions, each carries 20 marks.

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| 7 | a) With neat sketch, explain how Laser Doppler Anemometer can be used for flow measurement. | (10) |
| | b) Explain displacer type level switches. | (10) |
| 8 | a) Explain cross correlation flow meter. | (5) |

- b) Explain target flow meters. (5)
- c) Explain Radar level sensor. (10)
- 9 a) Explain the construction and working of Turbine flow meters. (10)
- b) What are rotating paddle switches? Explain how it is used to measure level. (10)
