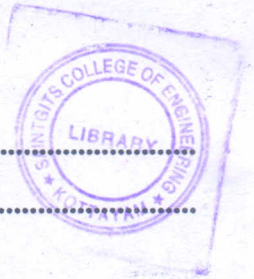


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Reg. No.....

Name.....



**B.TECH. DEGREE EXAMINATION MAY 2015**

**Sixth Semester**

Branch : Applied Electronics and Instrumentation/Electronics and Instrumentation/  
Instrumentation and Control Engineering

AI 010 603—INDUSTRIAL INSTRUMENTATION—I (AI, EI, IC)

(New Scheme—2010 Admission onwards)

[Regular/Improvement/Supplementary]

Time : Three Hours

Maximum : 100 Marks

**Part A**

*Answer all the questions.*

*Each question carries 3 marks.*

1. List down the difference between Pneumatic load cell and Hydraulic load cell.
2. Give the units of Viscosity.
3. Describe a bourdon tube.
4. State the need for calibration.
5. Explain one IC temperature sensor.

(5 × 3 = 15 marks)

**Part B**

*Answer all questions.*

*Each question carries 5 marks.*

6. Describe a revolution counter.
7. Explain the working of ultrasonic densitometer.
8. What is meant by Diaphragm ? Explain the operation.
9. Discuss the sources of errors in filled systems.
10. Define (a) Thermocouple, (b) Calibration.

(5 × 5 = 25 marks)

Turn over



## Part C

*Answer all questions.  
Each question carries 12 marks.*

11. Describe drag cup type tachometer.

*Or*

12. With neat sketches, explain the two types of load cells.

13. Explain in detail about Seismic instrument as an accelerometer and vibrometer.

*Or*

14. Explain the principle of operation of bridge type gas densitometer.

15. With neat sketches explain piezo electric pressure transducers.

*Or*

16. Draw and explain the operation of Dead weight tester.

17. Describe the working of Bimetallic thermometers.

*Or*

18. Explain the calibration of thermometers.

19. With neat diagram explain one radiation method of temperature measurement.

*Or*

20. Explain the fabrication of industrial thermocouples.

(5 × 12 = 60 marks)

