

G 1342

(Pages : 2)

Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2016

Seventh Semester

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

AI 010 705, EI 010 705, IC 010 705—INDUSTRIAL INSTRUMENTATION—II

(New Scheme—2010 Admission onwards)

[Improvement/Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 3 marks.

1. List out the advantages and disadvantages of Pitot tube.
2. Explain the principle of electromagnetic flow meter.
3. List direct and indirect level measuring methods.
4. Give the principle of pH measurement.
5. What are the different errors that occur when measuring thermal conductivity of solids ?

(5 × 3 = 15 marks)

Part B

Answer all questions.

Each question carries 5 marks.

6. Explain Coriolis force flow meter with neat diagram.
7. Explain the principle of vortex flow meters.
8. What are float switches ? Explain the principle of working of float switches.
9. What is the principle of relative humidity measurement by observing dew point temperature ?
10. Explain the capacitive type thickness measurement ?

(5 × 5 = 25 marks)

Part C

Answer all questions.

Each full question carries 12 marks.

11. (a) Explain how Pitot tubes are used in the measurement of fluid and liquid flow. (6 marks)
- (b) Elaborately explain, the measurement of fluid flow by orifice plates. (6 marks)

Or

Turn over



12. What are Dall tubes ? What are special features ? Explain their principle of operation. Also explain their installation and discuss application of different types of Dall tubes.

13. (a) With neat diagrams, explain the purge flow regulators. (6 marks)

(b) Discuss the factors to be taken into account while selecting flow meter. (6 marks)

Or

14. (a) Explain the dynamic weighing method. (6 marks)

(b) What is turbine flow meter ? Discuss each of their types. (6 marks)

15. Describe how gas Purge system can be used for measurement of liquid level for both open and closed type containers.

Or

16. (a) Describe the working of microwave level switches, with the help of neat diagrams. (6 marks)

(b) Give any *one* method of calibration of level detectors. (6 marks)

17. Describe the theory and working of a sling Psychrometer used for the measurement of relative humidity. What are its limitations ?

Or

18. ~~Describe the construction and theory of a Capillary Tube Viscometer. Explain how viscosity of both liquid and gas can be measured using it.~~

19. Explain the different methods used for measurement of thermal conductivity of liquids and gases.

Or

20. Explain the methods used to measure the thickness of coatings. How the accuracy can be ensured ?

[5 × 12 = 60 marks]

