Reg. No. : | | | | | | | | | | |

Question Paper Code: 31561

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2016

Fifth Semester

Instrumentation and Control Engineering

01UIC501 - INDUSTRIAL INSTRUMENTATION II

(Common to Electronics and Instrumentation Engineering)

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Mention the different types of orifice plate.
2. How Reynolds number is related to laminar and turbulent flow?
3. State the principle of a nutating disc.
4. Write short notes on purge rotameters.
5. List the two precautions to be taken while using an electromagnetic flow meter.
6. What is a swirl meter?
7. Where is a thermal level gauge suitable? State the limitations of float type level indications.
8. Draw the tilt switch arrangement for measurement of level for liquid and solid.
9. What is Dew cell?
10. Define fluidity and relative humidity.

PART - B (5 x 16 = 80 Marks)

11. (a) Describe with neat sketch the construction and working of a variable head type flow meter. Also, derive an expression for incompressible fluids. (16)

Or

(b) With a neat diagram, explain the construction of different types of venturi tubes and discuss about their installation. (16)

12. (a) Write notes on the following types of positive displacement meters.

(i) Reciprocating piston (ii) Oval gear and helix type. (16)

Or

(b) Explain the principle, working, features and advantages of Coriolis mass flow meter in detail. (16)

13. (a) With a neat sketch explain the construction and working of laser doppler anemometer and transit time ultrasonic flow meter. (16)

Or

(b) Explain in detail about the cross correlated ultrasonic flow meters. (16)

14. (a) Discuss the principle of operation of bubbler type and diaphragm box type level measurements. (16)

Or

(b) Describe the construction and working principle of resistance type and capacitance type level gauges. (16)

15. (a) Discuss the principle of operation of different methods of moisture measurement. (16)

Or

(b) Explain any two types of hygrometers for humidity measurement with neat sketches. (16)

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