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Question Paper Code: 31651

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

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. Define Reynolds number.
2. Mention the different types of orifice plate.
3. List the parameters for the selection of flow meters.
4. State the principle of a nutating disc.
5. Show the possible errors in flow meters.
6. What is a swirl meter?
7. Classify the steps involved in serving of sight glasses in level measuring instruments.
8. Draw the tilt switch arrangement for measurement of level for liquid and solid.
9. Define humidity and viscosity.
10. What is Dew cell?

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) Explain the flow Nozzle and Pitot tube with neat sketch. (16)

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

Or

- (b) Describe with neat sketches, the construction and working of a rotameter and nutating disc. (16)

13. (a) Explain with neat sketches the construction and working of a electromagnetic flow meters. (16)

Or

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

14. (a) Discuss the construction, working, merits and demerits of capacitance level indicator and radiation level indicator. (16)

Or

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

15. (a) Write short notes on float type and optical type consistency meter. (16)

Or

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