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Question Paper Code: 35601

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

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. State the Bernoulli's equation.
2. Mention the different types of orifice plate.
3. Summarize the application of target flow meters.
4. State the principle of a nutating disc.
5. Name three types of rate of flow meters.
6. What is a swirl meter?
7. Difference between differential pressure method and hydra step method.
8. Define bubbler system.
9. Formulate the units of humidity information.
10. Why should the water supply for psychrometers be at ambient temperature?

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the principle of operation and tapping of orifice meter with neat sketch. (16)

Or

- (b) Describe with neat sketches the principle of operation of an (i) an Orifice plate and (ii) Venturi tube as used in fluid flow measurement. (16)

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

Or

- (b) Explain the various methods for the calibration of different flow meters. (16)

13. (a) Describe with neat sketches the principle of operation of (i) Ultrasonic flow meter and (ii) Laser Doppler anemometer. (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) Identify the level detector which works on the principle of Archimedes. List the various types of detectors and explain any one in details. (16)

Or

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

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

Or

- (b) Explain briefly about moisture measurement of various substances with neat diagram. (16)