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**Question Paper Code: 31561**

B.E. / B.Tech. DEGREE EXAMINATION, NOVEMBER 2015

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. Discuss the advantages of the Dall tube and Pitot tube.
3. List the parameters for the selection of flow meters.
4. Summarize the application of target flow meters.
5. Show the possible errors in flow meters.
6. Name three types of rate of flow meters.
7. Classify the steps involved in serving of sight glasses in level measuring instruments.
8. Difference between differential pressure method and hydra step method.
9. Define humidity and viscosity.
10. Formulate the units of humidity information.

PART - B (5 x 16 = 80 Marks)

11. (a) 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)

Or

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

12. (a) Explain the various methods for the calibration of different flow meters. (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) Describe with neat sketches the principle of operation of (i) Ultrasonic flow meter and (ii) Laser Doppler anemometer. (16)

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

Or

- (b) Identify the level detector which works on the principle of Archimedes. List the various types of detectors and explain any one in details. (16)

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

Or

- (b) (i) Discuss the different methods of measurement of moisture in solids. (2)

- (ii) Demonstrate any two methods of measurement of moisture in solids. (14)