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

Question Paper Code: 35601

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2019

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

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

Or

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

13. (a) Describe with neat sketches the principle of operation of (i) Ultrasonic flow meter and (ii) Laser Doppler anemometer. (16)

Or

(b) Describe with neat sketches the principle of operation of (i) Ultrasonic flow meter and (ii) Laser Doppler anemometer. (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) 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 dew point and explain in detail about the commercial dew point 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)