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Question Paper Code : 91471

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Fifth Semester

Electronics and Instrumentation Engineering

EI 2303/EI 53/10133 EI 506 — INDUSTRIAL INSTRUMENTATION — II

(Common to Instrumentation and Control Engineering)

(Regulation 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is Bernoulli's theorem and where it is applicable?
2. How do you identify an orifice in the pipe line?
3. Write any two points of calibration of flow meter.
4. List some examples of inferential flow meter.
5. What are the different methods of solid flow measurement?
6. List the advantages of using AC excitation in Electromagnetic flow meter.
7. What is Purge level system?
8. What is the use of suppression and elevation?
9. What are the limitations of Psychrometers?
10. Define Specific viscosity.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the operation of an orifice plate and venture tube with neat diagram. (12)

(ii) What are its limitations? (4)

Or

(b) (i) Discuss the installation of head flow meter and piping arrangement for different fluids. (10)

(ii) Write short notes on Dall tube. (6)

12. (a) What are positive displacement meters? Explain the working of any one positive displacement meter for flow measurement. (16)

Or

(b) Explain the general types of area meters used for flow measurement and write short notes on Rotameter. (16)

13. (a) (i) Explain the principle and working of Ultrasonic flow meter with neat diagram. (10)

(ii) Write its advantages and limitations. (6)

Or

(b) (i) Explain about Solid flow measurement. (12)

(ii) Discuss about the source of errors in electrical type flow meter. (4)

14. (a) Explain the different methods of level measurement in brief. (16)

Or

(b) Explain how boiler drum level is measured using Differential pressure and Hydrà step method. (16)

15. (a) What is Psychrometer? How does it differ from Hygrometer? Explain any one Psychrometer in detail. (16)

Or

(b) (i) Describe the Chemical reaction method of measuring moisture. (10)

(ii) Write short notes on moisture measurement in Paper industry. (6)