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Reg. No. :

Question Paper Code : 31426

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

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)

(Common to PTEI 2303 – Industrial Instrumentation II for B.E. (Part-Time) Fourth Semester – Electronics and Instrumentation Engineering – Regulation 2009)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Reynolds number.

2. List the types of orifice plates.

3. State the features of coriolis mass flow meter.

4. Describe the basic principle of variable area flow meter.

5. Enumerate the applications of electromagnetic flow meter.

6. Write down the types of ultrasonic flow meters.

7. What is the principle of displacer type level measurement?

8. List the advantages of capacitance level measurement.

9. What are the industrial needs which make viscosity determinations desirable?

10. Mention the factors which should be considered as possible sources of error in humidity measurements.

PART B — (5 × 16 = 80 marks)

11. (a) Explain the orifice flow meter with neat diagram. (16)

Or

(b) Explain the principle, operation of pilot tube flow meter in detail. (16)

12. (a) With neat diagram, explain the inferential meter in detail. (16)

Or

(b) (i) Explain angular momentum mass flow meter in detail. (8)

(ii) Write briefly about calibration of flow meter. (8)

13. (a) Explain ultrasonic flow meter in detail with its applications. (16)

Or

(b) Explain in detail the guidelines for selection of flow meter. (16)

14. (a) Explain level measurements using bubbler system in detail. (16)

Or

(b) With neat diagram explain level measurements by electrical methods. (16)

15. (a) Explain rotameter type viscometer with a neat diagram. (16)

Or

(b) Explain different moisture measuring methods with its applications. (16)

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