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C09–AEI–306

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BOARD DIPLOMA EXAMINATION, (C–09)

OCT/NOV—2014

DAEI—THIRD SEMESTER EXAMINATION

PROCESS INSTRUMENTATION

Time : 3 hours] [*Total Marks* : 80

PART—A 3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Define the following :

(a) Zero drift

(b) Threshold

2. Comprehend the concept of calibration.

3. State the principle of linear potentiometer.

4. Draw the diagram of RVDT.

5. List out the applications of pyrometers.

6. State the principle of bellows.

7. State the principle of pressure switches.

8. Draw a neat sketch of venturi tube.

9. State the principle of liquid level sight glass

10. Define humidity.

PART—B

10×5=50

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Explain about different types of errors in instrumentation. 10

12. Explain the principle of operation of LVDT. 10

13. Explain principle of operation of thermocouple.

14. Explain the principle of force balance pressure transducer 10

15. Explain the principle of operation of the following :

(a) Cup type anemometer 5

(b) Hot-wire type anemometer. 5

16. Explain the principle of condensation-type hygrometer. 10

17. Explain the principle of operation of the following :

(a) DC tacho generators 5

(b) Liquid-filled thermometers 5

18. Explain the following :

(a) Rotameter 5

(b) Float actuated level indicators 5

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