



C16-AEI-305

6217

BOARD DIPLOMA EXAMINATION, (C-16)

MARCH/APRIL—2018

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 terms resolution and threshold.
2. Define the term hysteresis.
3. State the principle of linear potentiometer.
4. List any three temperature transducers.
5. Draw the diagram of bellows.
6. State the principle of cup-type anemometer.
7. Draw the diagram of orifice plate.
8. Write any three applications of ultrasonic level gauge.
9. Define viscosity.
10. Draw the diagram of pneumatic load cell.

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. (a) Define sensor and transducer. 4
(b) List the basic requirements of transducer. 6
12. Explain the principle of operation of LVDT type displacement transducer with diagram.
13. Explain the principle of operation of total radiation pyrometer with diagram.
14. Explain with diagram the principle of operation of force-balance pressure transducer.
15. Explain the principle of operation of electromagnetic flowmeter with diagram and list any four applications.
16. Explain the principle of operation of float actuated level indicator for level measurement with diagram and list any four applications.
17. (a) Explain the principle of operation of fluid dynamic type density measurement with diagram. 5
(b) Explain the principle of operation of falling ball viscometer with diagram. 5
18. Explain the principle of operation of electrolytic hygrometer for humidity measurement with diagram.
