



C16-AEI-305

6217

BOARD DIPLOMA EXAMINATION, (C-16)

JANUARY/FEBRUARY—2022

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 accuracy and precision.
2. Define repeatability.
3. State the principle of operation of linear potentiometers.
4. List any three applications of solid state sensors.
5. State the necessity of pressure multiplexer.
6. Write the principle of operation of orifice plate.
7. State the principle of cub type anemometer.
8. Write the principle of operation of liquid level sight glass.
9. Define density.
10. List any three types of weight measurement transducers.

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## PART—B

- Instructions :** (1) Answer *any five* questions.  
(2) Each question carries **ten** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. (a) List any five basic requirements of transducer. 6  
(b) Define sensor and transducer. 4
12. Explain the principle of operation of Rotary Variable Differential Transformer (RVDT) with diagram. 10
13. Explain the principle of operation of total radiation pyrometer transducer with diagram and list its applications. 10
14. Explain the principle of operation of LVDT type transducer for pressure measurement. 10
15. Explain the principle of operation of laser anemometer with diagram and list its applications. 10
16. Explain the principle of operation of ultrasonic level gauge with diagram and list its applications. 10
17. Explain the principle of operation of capillary viscometer with diagram. 10
18. Explain the principle of operation of condensation type hygrometer with diagram. 10

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