



C16-AEI-305

**6217**

**BOARD DIPLOMA EXAMINATION, (C-16)**

**AUGUST/SEPTEMBER—2021**

**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 term linearity.
2. Define threshold.
3. List any three angular velocity measurement transducers.
4. Classify temperature transducers.
5. State the principle of pressure multiplexer.
6. Write the principle of ultrasonic flow meter.
7. List any three applications of venture tube.
- \* 8. Write the principle of nucleonic level gauge.
9. Define viscosity.
10. Define relative humidity.

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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) Define calibration and state the need of calibration. 6  
(b) List the types transducers. 4
12. Explain the principle of inductive proximity sensor for position measurement with a diagram. 10
13. Explain the principle of operation of thermocouple transducer with a diagram and list its applications. 10
14. Explain the principle of operation of thin film pressure transducer. 10
15. Explain the principle of operation of turbine flow meter with a diagram and list its applications. 10
16. Explain the principle of operation of float actuated level indicator with a diagram and list its applications. 10
17. Explain the principle of operation of fluid dynamic type densitometer. 10
18. Explain the principle of operation of pneumatic load cells for weight measurement with a diagram. 10

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