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C16-AEI-305

**6217**

**BOARD DIPLOMA EXAMINATION, (C-16)**  
**OCT/NOV—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 following terms :
  - (a) Absolute error
  - (b) Relative error
2. Define calibration.
3. State the importance of vibration monitoring.
4. List the any three applications of resistance temperature detector.
5. Draw the diagram of corrugated diaphragm and twisted Bourdon tube.
6. List any three applications of electromagnetic flow meter.
7. List any three applications of Venturi Tube.
8. List any three applications of float actuated level indicators.
9. Define density.
10. Define Relative Humidity.

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**PART-B**

10×5=50

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

- 11.** Classify the transducer and mention few transducer, under each category.
- 12.** (a) Draw and explain the principle of operation of capacitive proximity sensor.  
(b) Explain the principle of operation of photo electric tachometer with a diagram.
- 13.** Draw and explain the principle of operation of total radiation pyrometer.
- 14.** Explain the pressure calibration using dead weight tester with neat diagram.
- 15.** Explain the principle of operation of electromagnetic flow meter with a sketch.
- 16.** (a) Explain the principle of operation of Resistive type level indicator with a diagram.  
(b) Draw and explain the principle of operation of Nucleonic Level gauge.
- 17.** Draw and explain the principle of operation of capacitance type densitometer.
- 18.** Explain the principle of operation of Strange gauge load cell with a diagram.

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