

4219

BOARD DIPLOMA EXAMINATION, (C-14)

JUNE-2019

DAEIE - THIRD SEMESTER EXAMINATION

PROCESS INSTRUMENTATION-I

Time: 3 Hours]

[Max.Marks: 80

PART- A

10x3 = 30M

**Instructions:** 1) Answer **all** questions.  
2) Each question carries **three** marks  
3) Answer should be brief and straight to the point and shall not exceed five simple sentences.

- 1) Define Threshold.
- 2) Define sensor.
- 3) Define transducer.
- 4) State the principle of Resistance strain gauge.
- 5) Classify the temperature transducers.
- 6) List any three applications of liquid filled thermometer.
- 7) Define P<sup>H</sup>.
- 8) Draw the diagram of Digital P<sup>H</sup> meter.
- 9) Define Conductivity.
- 10) State the necessity of conductivity cell.

**PART-B**

**5x10 = 50M**

- Instructions:** 1) Answer any **five** questions.  
2) Each question carries **ten** marks

- 11) Define the following terms
  - a) Precision and Accuracy
  - b) Hysteresis and Linearity.
- 12) Explain the Rotary Variable Differential Transformer (RVDT).
- 13) Explain the principle of operation of Toothed rotor variable reluctance Tachometer.
- 14) Explain the principle of operation of thermocouple.
- 15) Explain the principle of operation of Infrared pyrometer.
- 16) Describe the measuring electrodes used for  $P^H$  measurement.
- 17) Explain the principle of operation of conductivity meter.
- 18) Explain the principle of operation of Electrolytic hygrometer.

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