TED (15/19) – 4213
(Revision – 2015/19)

N22 - 02982

Reg.No……..
Signature……...

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE – NOVEMBER – 2022

INDUSTRIAL INSTRUMENTS - I

(Maximum Marks : 100) (Time : 3 hours)

PART – A
(Maximum Marks : 10)

Marks

I. Answer **all** questions in one or two sentences. Each question carries 2 marks.

1. Write any two units of pressure.
2. What is level switch?
3. Define Temperature.
4. State Peltier effect.
5. What is Absolute pressure? (5x2=10)

PART –B
(Maximum Marks : 30)

II. Answer any **five** of the following questions. Each question carries 6 marks.

1. Draw and explain inclined manometer.
2. Describe the working of diaphragm.
3. Explain level measurement using sight glass.
4. Describe the working of fiber optic level sensor.
5. Write short notes on different temperature scales and conversions.
6. Describe the working of mercury in glass thermometer.
7. Describe the laws of thermocouple. (5x6=30)

PART – C
(Maximum Marks : 60)
(Answer **one full** question from each unit. Each full question carries 15 marks)

UNIT – I

III. (a) Describe the working of McLeod gauge with figure. (9)

(b) Explain the working of helical bourdon gauge. (6)

OR

IV. (a) Describe the calibration of pressure gauge using dead weight tester. (8)

(b) Explain pressure measurement using strain gauges. (7)

UNIT – II

V. (a) Explain the working of ultrasonic level gauge. (7)

(b) Describe the working of capacitance type level indicator. (8)

OR

VI. (a) Explain the working of float type level indicator. (7)

(b) Describe the working principle of air purge level indicator. (8)

UNIT –III

VII. (a) Explain the construction and working of optical pyrometer. (9)

(b) Describe the working of mercury in steel thermometer. (6)

OR

VIII. (a) Describe the working of bimetallic thermometer. (7)

(b) Describe the working of vapor pressure thermometer. (8)

UNIT – IV

IX. (a) Describe the working, types and characteristics of RTD. (10)

(b) Write short notes on thermopile. (5)

OR

X. (a) Describe the working, types and characteristics of Thermistor. (10)

(b) Describe different industrial thermocouples. (5)

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