

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, NOVEMBER - 2022**

INDUSTRIAL INSTRUMENTS II

[Maximum marks: 100]

(Time: 3 Hours)

PART – A

Maximum marks : 10

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

1. Define Reynolds number.
2. Write any four advantages of Turbine flow meters.
3. Write any two units of Viscosity.
4. Define Specific gravity.
5. List any four types of load cells.

(5 x 2 = 10)

PART – B

Maximum marks : 30

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

1. Compare laminar and turbulent flow.
2. State and explain Bernoulli's theorem.
3. Describe the working principle of Coriolis mass flow meters.
4. Explain the working of Vortex shedding flow meters.
5. Explain the principle and working of Say bolt viscometer.
6. Define the terms Humidity, Relative humidity, Absolute humidity, and Dew point
7. Describe Strain gauge load cell.

(5 x 6 = 30)

PART – C

Maximum marks : 60

(Answer one full question from each unit. Each full question carries 15 marks)

UNIT –I

III. (a) With neat diagrams, explain the construction and working of Rota meter

(8)

(b) Describe the construction and working of flow nozzle. (7)

OR

IV. (a) Explain different types of Orifice plates. (8)

(b) Describe the construction and working of Venturi meters. (7)

UNIT-II

V. (a) Explain the construction and working of Electro magnetic flow meters. (8)

(b) Describe the construction and working of Ultrasonic flow meters. (7)

OR

VI. (a) Explain the construction and working of Nutating disc type flow meters (8)

(b) Describe the operation of Oval gear type flow meters with its applications. (7)

UNIT-III

VII.(a) Explain the principle and working of Hydrometer. (8)

(b) Describe the operation of Dry and Wet bulb Psychrometer. (7)

OR

VIII.(a) Explain the construction and working of Hair hygrometer. (8)

(b) Describe the working of capacitance hygrometer for moisture measurement. (7)

UNIT-IV

IX. (a) Describe Hydraulic load cell. (8)

(b) Explain construction and working of stroboscope. (7)

OR

X. (a) Describe the technique of torque measurement using Strain gauges. (8)

(b) Explain the construction and working of Seismic accelerometer. (7)
