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Reg. No……
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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, APRIL – 2023

INDUSTRIAL INSTRUMENTS – II

[Maximum Marks: **100**] [Time: **3** Hours]

PART-A

[Maximum Marks: **10**]

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

1. Define Laminar flow.
2. Define Reynold's number.
3. List the disadvantages of electromagnetic flowmeter.
4. List the advantages of hair hygrometer.
5. Name the features of peizo electric accelerometers. (5 x 2 = 10)

PART-B

[Maximum Marks: **30**]

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

1. Derive the continuity equation.
2. Describe the construction of DALL tube.
3. Explain the working of ultrasonic flowmeter.
4. Explain the open channel flow measurement by rectangular notch.
5. Describe the operation of dew cell.
6. Explain the working of capacitive hygrometer.
7. Describe the operation of hydraulic 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. Explain the construction and working of ventury meter. (10)

b. Describe the working of pitot tube. (5)

OR

IV. a. Explain the classification of orifice plates. (7)

b. Describe the working and construction of Rotameter. (8)

UNIT – II

V. a. Explain the working of Turbine flowmeter with neat sketch. (8)

b. Describe the working of Reciprocating piston flowmeter. (7)

OR

VI. a. Explain the construction and working of electro magnetic flowmeter. (8)

b. Describe the working of hot wire anemometer. (7)

UNIT- III

VII. a. Describe the working of static pressure operated specific gravity measurement method. (8)

b. Explain the construction and working of red wood viscometer. (7)

OR

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

b. Describe the operation of wet and dry bulb psychrometer. (7)

UNIT - IV

IX. a. Describe the working of strain gauge load cell. (7)

b. Explain the working of LVDT accelerometer. (8)

OR

X. a. Describe the measurement of torque using strain gauge. (8)

b. Explain the measurement of shaft speed using stroboscope. (7)

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