

### SECTION-C

**Note:** Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 Explain construction and working of LVDT.
- Q.4 How the pressure can be measured by using C-type bourdon tube?
- Q.5 Explain how strain can be measured.
- Q.6 What is PH - meter? Explain its construction and working in detail.
- Q.7 Write short note on any two:-
- i) Vernier callipers
  - ii) Least count of instrument
  - iii) Viscosity measurement

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**5th Sem. / IC / EI**

**Subject : Process Instrumentation**

Time : 3 Hrs.

M.M. : 100

### SECTION-A

**Note:** Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1
- a) Instrumentation
  - b) Hygrometer
  - c) Transducer
  - d) Amplifier
  - e) Inductive transducer
  - f) Potentiometer
  - g) Sensitivity
  - h) Frequency
  - i) Force

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- j) Angle
- k) Stress
- l) Speed
- m) Torque
- n) Viscosity
- o) Density
- p) Pressure
- q) PH value
- r) Humidity

### SECTION-B

**Note:** Short answer type questions. Attempt any ten parts 10x4=40

- Q.2
- i) What is micrometer?
  - ii) Write short note on accelerometer.
  - iii) What is U-tube manometer?

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- iv) Explain capacitive method of thickness measurement.
- v) How the density can be measured?
- vi) Explain any one method to measure velocity.
- vii) How the humidity can be measured?
- viii) How thickness can be measured using ultrasonic method.
- ix) What is tachometer? Explain
- x) Discuss any method to measure force.
- xi) What is load cell?
- xii) Explain what is planimeter.
- xiii) How the power can be measured? Explain.
- xiv) How the torque can be measured? Explain in brief.
- xv) What is dynamometer?

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