

- Q.31 Write down advantages and disadvantages of level measurement using sight glass method.
  - Q.32 Explain working of captive level measurement method.
  - Q.33 Describe any one method for high pressure measurement.
  - Q.34 Explain electro-magnetic flow measurement.
  - Q.35 Write a short notes on bellows, Burdon tube and diaphragm.

## **SECTION-D**

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain construction, principle of working of ionization gauge for measurement of low pressure.

Q.37 Explain venture meter measurement for flow measurement.

Q.38 Describe construction and working principle of RTD for temperature Measurement.

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**5th Sem / IC, EI**  
**Subject:- Process Instrumentation**

Time : 3Hrs. M.M. : 100

M.M. : 100

## **SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1  $0^{\circ}\text{C}$  is equal to.

  - a) -273 K
  - b) 0K
  - c) 273 K
  - d) 32 k

Q.2 Newton is unit of

  - a) Force
  - b) Level
  - c) Pressure
  - d) Humidity

Q.3 Rota meter is used for measurement of.

  - a) level
  - b) flow
  - c) Temperature
  - d) None of these

Q.4 Which of the following is highly non linear

  - a) Thermocouple
  - b) RTD
  - c) thermistor
  - d) none of these

Q.5 Bellows is used to measure \_\_\_\_\_

  - a) Level
  - b) Temperature
  - c) Pressure
  - d) Difference

Q.6 Working Principle of ultrasonic flowmeter is \_\_\_\_\_

- a) Halls effect
- b) Electromagnetic Radiation
- c) Seebck effect
- d) Doppler effect

Q.7 1 atm pressure is \_\_\_\_\_

- a) 760 mm Hg
- b) 1 mm Hg
- c)  $10^3$  mmHg
- d)  $10^{-3}$  mm hg

Q.8 Thermistor is used for measurement of

- a) Temperature
- b) Pressure
- c) flow
- d) None of these

Q.9 Unit of frequency

- a) sec
- b) HZ
- c) 1/sec
- d) Both b & c

Q.10 Which is not used for temperature measurement

- a) Thermocouple
- b) Thermistor
- c) Radiation pyrometer
- d) Rota-meter

### SECTION-B

**Note:** Objective type questions. All questions are compulsory.  $(10 \times 1 = 10)$

Q.11 °F is a unit of \_\_\_\_\_

Q.12 What is Pressure.

Q.13 Principle of thermocouple is based on

Q.14 Define thermistor

Q.15 Draw the diagram of rota-meter.

Q.16 What is gauge pressure.

Q.17 Write a relation between atm, gauge and absolute pressure.

Q.18 Explain the barometer and how can measure the atmospheric pressure.

Q.19 \_\_\_\_\_ Pyro means.

Q.20 Draw the diagram of three types orifice plate.

### SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions.  $(12 \times 5 = 60)$

Q.21 Describe the working principle of seebck effect.

Q.22 What is bi-metallic strip and how we can measure the temperature?

Q.23 Describe radiation pyrometer and advantages.

Q.24 Write short note on fiber optics thermometer.

Q.25 Describe the construction and working principle of Rota-meter.

Q.26 Describe the ultrasonic method for level measurements.

Q.27 Describe pirani for measurement of low pressure.

Q.28 Describe the Burdon tube for pressure measurement.

Q.29 Write short note on hot wire anemometer.

Q.30 Describe the ultrasonic flow measurement and also explain the time difference and frequency method.