

- Q.29 Describe any one method for low pressure measurement.
  - Q.30 Mention advantages and disadvantages of Orifice flow meter.
  - Q.31 Discuss high pressure measurement method.
  - Q.32 Write short note on Venturi meter.
  - Q.33 What are Fiber Optic Thermometers.
  - Q.34 Discuss ultrasonic method for level measurement
  - Q.35 Write a short note on Mc lead guages.

## **SECTION-D**

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

- Q.36 Explain construction, working principle and advantages Ultrasonic flow meter.

Q.37 Explain Level measurement using pressure transducer with suitable diagram.

Q.38 Describe construction and working principle of Radiation pyrometer.

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## **5th Sem./ Instrumentation & Control / EI Subject:- P.I. ( Process Instrumentation)**

Time : 3Hrs. M.M. : 100

M.M. : 100

## **SECTION-A**

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

- Q.1 \_\_\_\_\_ is unit of pressure.

a) Bar                          b) Watt  
c) Kelvin                        d) Tesla

Q.2 Thermocouple is used for measurement of \_\_\_\_\_.

a) Temperature                b) Pressure  
c) Flow                         d) None of these

Q.3 Pirani guage is used for measurement of \_\_\_\_\_.

a) Low Pressure                b) High Pressure  
c) Medium Pressure            d) None of these

Q.4 Rotameter is used for measurement of \_\_\_\_\_.

a) Flow                         b) Pressure  
c) Temperature                 d) Level

Q.5 Which method is utilized for level measurement

a) Resistive                    b) Capacitive  
c) Inductive                    d) All of these

Q.6 The output of Turbine Flow meter is \_\_\_\_\_  
a) Digital                  b) Analog  
c) Both A and B            d) None of these

Q.7 Thermocouples are \_\_\_\_\_  
a) Passive Transducer    b) Active Transducer  
c) Both A and B            d) Output Transducer

Q.8 A Reynold's number of 1000 indicates  
a) Turbulent                b) Laminar  
c) Both A and B            d) None of These

Q.9 The output of Electromagnetic Flow meter is unaffected by changes in characteristics of liquid \_\_\_\_\_.  
a) Viscosity                b) Pressure  
c) Temperature             d) All of these

Q.10 Thermistors are composed of metallic oxides such as \_\_\_\_\_  
a) Manganese                b) Nickle  
c) Cobalt                    d) All of these

### SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Mention any one Process variable

Q.12 Manometers are used for Pressure measurement (T/F)

- Q.13 Thermistors are used to detect very small changes in temperature (T/F)  
Q.14 Ultrasonic Flow meter utilizes \_\_\_\_\_ crystals.  
Q.15 Write shapes of bourdon tube available for pressure measurement.  
Q.16 Turbine flow meters are volumetric flow meters (T/F)  
Q.17 Write one advantages of Thermistor  
Q.18 Define Pressure  
Q.19 Bridgeman gauge is used for measurement of \_\_\_\_\_ pressure.  
Q.20 Gamma rays are utilized for Level measurement T/F

### SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Mention units of Temperature  
Q.22 Define Pressure.  
Q.23 Explain any two process variable with their units.  
Q.24 Write short note on Thermistor.  
Q.25 Explain pressure measurement usnig any one elastic element.  
Q.26 Discuss Turbine Flow meter  
Q.27 Describe Buoyancy method for level measurement  
Q.28 Write short note on IR detector.