



SRM Institute of Science & Technology
College of Engineering & Technology
Ramapuram Campus

Department of Electronics and Communication Engineering
Academic Year (2021-2022)

Question bank unit V

(Common for III YEAR CSE All Sections, CSE Specialization: IOT, BDA, Cyber security, AIML & IV YEAR ECE)

Sub. Code: 18ECO133T

Sub. Name: SENSORS AND TRANSDUCERS

Semester: V & VII

Bourdon tube is used for the measurement of gauge pressure of

- a) Gas
- b) Liquid fluid
- c) Solid
- d) Both (a) and (b)**

Rotameter used to find the

- (a) **Flow rate** (b) vibration (c) resistance (d) Sound

_____ **measures the pressure value.**

- (a) **Bourdon tube** (b) hot wire anemometer (c) A.C tachometer (e) orifice meter

Ultrasonic flow meter calculates the output value in terms of

- (a) **Time difference** (b) current (c) Emf (d) Capacitance

_____ **helps to measure displacement**

- (a) Stroboscope (b) Mano meter (c) venturi meter **(d) Potentiometer.**

The rate at which fluid flows through a closed pipe can be determined by

- A. Determining the mass flow rate
- B. Determining the volume flow rate
- C. Either (a) or (b)**
- D. None of these

Conveyor-based methods is used for the measurement of the flow of

- A. Solids**
- B. Liquid
- C. Gas
- D. All of these

For the measurement of flow rate of liquid, the method used is

- A. Conveyor-based methods
- B. Bourdon tube
- C. Coriolis method**
- D. Thermal mass flow measurement

The devices used for flow obstruction is/are

- A. Orifice plate
- B. Venturi tube
- C. Flow nozzle and Dall flow tube
- D. All of these**

The device which is used for making temporary measurements of flow is

- A. Venturi
- B. Dall flow tube
- C. Orifice plate**
- D. Pitot static tube

For the measurement of flow the cheapest device is

- A. Venturi
- B. Dall flow tube
- C. Flow nozzle**
- D. Pitot static tube

The instrument which is not suitable for the application in automatic control scheme

- A. Rotameters**
- B. Pitot static tube
- C. Rotary piston meter
- D. Orifice plate

_____ measures velocity at a point of fluid in a stream.

- a) Venturi meter
- b) pH meter
- c) Pitot-Static tubes**
- d) None of the mentioned

Which of the following represents obstruction type flow measuring systems?

- a) Centrifugal force type
- b) Rotating vane system

c) Flow nozzle device

d) None of the mentioned

Which of the following represents the correct relation between flow rate and area of pipe?

a) Direct proportionality

b) Inverse proportionality

c) Equal

d) None of the mentioned

The flowmeter which cannot measure bidirectional flow is

a) Ultrasonic flowmeter

b) Turbine flowmeter

c) Electromagnetic flowmeter

d) Coriolis mass flowmeter

Venturimeter measures the volumetric flow rate of a fluid flowing through a

a) Flat plate

b) Pipe

c) Channel

d) None

An orifice meter measures the volumetric flow rate of a

a) Liquid

b) Gas

c) Both liquid and gas

d) None

The most common fluid for which Orifice meter used is

a) Water

b) Steam

c) Nitrogen gas

d) None

Orifice meter is a meter which works with

a. Temperature difference

b. Pressure difference

c. Both (a) & (b)

d. None

The pressure drop across an Orifice meter is

a. Parabolic

b. Linear

c. Curvilinear

d. None

As the fluid approaches the Orifice meter, pressure

a. Increases slightly

b. Decreases slightly

c. No change

d. None

A Rotameter measures

a. Mass flow rate

b. Volumetric flow rate

c. Both (a) & (b)

d. None

In a Rotameter, during flow measurement, float is

- a. Moving slowly
- b. Stationary**
- c. Moving fast
- d. None

A Rota meter is installed

- a. Horizontally
- b. Vertically**
- c. Inclined
- d. None

Pitot tube is used in a

- a. Laminar flow
- b. Turbulent flow
- c. Highly turbulent flows**
- d. None

Which of the following flow-measuring elements is inherently linear and requires no signal characterization (e.g. square-root extraction) anywhere in the loop?

- a) Venturi
- b) Orifice plate
- c) Pitot tube
- d) Turbine**

Identify which of the following flowmeters inherently measures mass flow rate:

- (A) Thermal**
 - (B) Magnetic
 - (D) Flow nozzle
 - (D) Vortex
 - (E) Venturi tube
-

Magnetic sensors are widely used in

- a) electronic gadgets in entertainment**
- b) VCR Camera
- c) Oven
- d) Dishwasher

Hall sensors are used in

- a) VCR Cameras
- b) Stereo sets
- c) tape recorders
- d) All the above**

Magnetoresistive sensors are used in

a)VCR Camera and Tape recorders

b) Oven

c) Dishwasher

d)Electric carpet

Infrared sensors are employed in

a) CD Player

b)Microwave ovens

c)Dryer

d)Dishwasher

Photodiode and phototransistor radiation sensors are used as major elements in

a)Refrigerators

b)washing machines

c)TV sets and CD player

d)All the above

VCR Camera uses

a)CCD Image sensors

b) MOS image sensors

C)All the above

Pyro electric IR sensor used in

a)Microwave ovens

b)Refrigerators

c)washing machines

d)TV sets and CD player

The sensor used for spin-dry system in washing machines is a

a) Hall Effect sensor

b)PZT Ceramic sensor

c) Thermistor

PZT is a solid solution of

- a)Lead zirconate(PbZrO_3)
- b)Lead titanate (PbTiO_3)
- c)All the above**

_____is used for frost detection in refrigerators

- a)Phototransistor
- b) Thermistor
- c)Photo diode – LED assembly**
- d)None of the above

A _____is a very effective device used for detecting the rotating speed of a washing machine drum

- a)Hall Effect sensor**
- b)Biosensor
- c)Thermistor
- d)None of the above

Video cassette recorders , for precise control of the servomotor that drives the playback and recording heads, use

- a)Hall and magnetoresistive sensors**
- b) Biosensor
- c) Thermistor
- d) Photo diode

The important categories in home automation are

- a)House control
- b)Energy control/Optimization
- c)Home security
- d)All the above**

Proximity sensor is used in

- a) speed measurement
- b) Distance measurement**
- c) Pressure measurement
- d) None of the above

In closed container type level measuring system, pressure at top of container is due to

-
- a) Vacuum pressure
 - b) Vapor pressure**
 - c) Liquid pressure
 - d) Atmospheric pressure

Which of the following devices are used for a level to force conversion?

- a) Load cell**
- b) Membrane
- c) Diaphragm
- d) Voltmeter

The ionization gauge an instrument used for the measurement of

- A. Very low pressure**
- B. Medium pressure
- C. High pressure
- D. Very high pressure

Dipsticks are used for the

- A. Pressure measurement
- B. Flow measurement
- C. Displacement measurement
- D. Level measurement**