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B.Sc. Sixth semester  
Instrumentation (Vocational)  
US06CINV01

Process Measurement Techniques-2

Monday, 25/03/2019

Time: - 10:00am To 1:00pm

Marks: - 70

Q.1 Choose the correct answer (Attempt all) (10)

- (1) Which of the following is indirect method for level measurement?  
(a) Float and tape. (c) Float and Shaft.  
(b) Bubbler method. (d) Sight glass.
- (2) In which of the following method remote readout is not possible?  
(a) Float and tape. (c) Float and Shaft.  
(b) Sight glass. (d) All of above.
- (3) In which type of level measuring method conducting liquid is required?  
(a) Ultrasonic. (c) Capacitive.  
(b) Resistive. (d) Radioactive.
- (4) What is used to avoid oxidation in the moisture measurement of oil and fats using oven method?  
(a) Water vapors. (c) Active gas  
(b) Air (d) Inert gas.
- (5) Which type of sensor is utilized in Hygrometer?  
(a) Resistance type. (c) Capacitance type.  
(b) Membrane type. (d) Platinum plate contacts.
- (6) Which parameter can be measured by Psychrometer?  
(a) Relative flow. (c) Relative pressure.  
(b) Relative Humidity. (d) Dew point.
- (7) What should the Reynolds no for Laminar flow of fluids?  
(a) 1950 (c) 2550  
(b) 2650 (d) 2750
- (8) Among the following which is the flow quantity meter?  
(a) Rota meter. (c) Lobed impeller meter.  
(b) Orifice plates. (d) Venturi meter.
- (9) In which of following pressure loss is minimum?  
(a) Orifice Plates. (c) Venturi meter.  
(b) Pitot tubes. (d) Flow nozzles.
- (10) Among the following which is the positive displacement flow meter?  
(a) Rota meter. (c) Pitot tubes.  
(b) Nutating disk meter. (d) Venturi meter.

①

C.P.T.O.

Q2 Answer the following questions (Any Ten) (20)

- (1) Explain working principle of the float and tape and float and shaft type level gauge.
- (2) Explain how level is measured in pressure vessels?
- (3) Give the name of quantities which can be estimated by measuring the level of liquid in the tank.
- (4) Explain an electrical resistance method for moisture measurement.
- (5) Define Moisture, Humidity and Dew point.
- (6) Explain principle of dew point measuring device.
- (7) Differentiate the continuous type and quantity type flow meters.
- (8) List the factor that governs the flow of fluids in closed pipes.
- (9) Explain why venturi flow meter is better than orifice plates.
- (10) Write the principle of ultra sonic flow meter.
- (11) Explain principle of Hot wire anemometer.
- (12) Explain Nutating disk flow meters briefly.

Q3 Write a note on electrical conductance and capacitance type methods of liquid level measurement. (10)

OR

Q3 Write a note on direct type methods of liquid level measurement. (10)

Q4 List various methods for determination of Moisture and explain distillation method for moisture measurement. List its merits and demerits. (10)

OR

Q4 Explain automatic electronics Psychro-meter for humidity measurements. (10)

Q5 Explain various types of the orifice plates in detail and list their merits and demerits. (10)

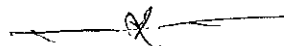
OR

Q5 Write a note on Venturi flow meter. (10)

Q6 Explain Lobed-Impeller and Reciprocating piston type Flow meter with necessary diagrams. (10)

OR

Q6 Explain Electro-magnetic flow meter in details. (10)



(2)