

Question Bank (I-Scheme)

Name of course: Industrial Measurements

Unit Test: II

Subject code: 22420 (IME)

Semester: IV

Program: EE

Chapter 3: Flow Measurement (CO3)

2 Marks

1. State the specification of positive displacement meter.
2. State any two advantages of ultrasonic flow meters.

4 Marks

3. Explain the working of Electromagnetic Flow meter with neat sketch.
4. Explain the principle of operation of Doppler type ultrasonic flow meter with a neat labeled sketch.
5. State any two advantages and disadvantages of electromagnetic flow meter.

Chapter 4: Level Measurement (CO4)

2 Marks

6. State working principle of capacitive type level transducer.
7. List different types of Electric level meter.
8. List different types of indirect level measurement meter.
9. List any two non-contact type level measurement methods.

4Marks

10. Describe classification of level meters
11. Describe with neat labeled diagram measurement of flow using hydrostatic level meter.
12. A capacitive type level sensor is to be used for measuring the level of water in the tank. With a neat labeled diagram explain the construction of this transducer. Also state the reason for change in capacitance with change in level of water.
13. Explain float type linear potentiometer type level measurement with neat diagram.
14. Compare between: Ultrasonic and Radar type level measurement (any four points)
15. Suggest a suitable level transducer for following application:
 - (i) Level control of liquid, powders and fine grained solids within mining
 - (ii) Chemical processing and food industries
 - (iii) Tank level monitoring in chemical, water treatment
 - (iv) Oil level in transformer.

Chapter 5: Temperature Measurement (CO5)

2Marks

16. State working principle of RTD.
17. Draw temperature characteristics of Thermistor
18. State law of Seebeck and Peltier effect.
19. Write conversion equation for temperature scale of Fahrenheit to Centigrade
20. What is Pt-100?
21. Write the materials used for RTD.

4 Marks

22. Describe different types J, K, R, S, T thermocouple with a neat sketch
23. Draw neat labeled diagram of Pyrometer type temperature sensor.
24. State applications of temperature measurement transducer i) vapor pressure thermometer
ii) bimetallic pressure thermometer iii) RTD iv) Pyrometer
25. Compare RTD and thermistor on the basis of:
(i) Temperature coefficient (ii) linearity (iii) temperature (iv) range and cost
26. Convert 200°F into Celsius (°C) Kelvin (°K) and Rankin (°R).
27. What is pyrometry? Explain working of optical pyrometer with neat diagram. State its one application.
28. Compare between NTC and PTC.
29. Explain working principle of bimetallic thermometer with neat diagram.