

20 JAN 2023

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Question Paper Code	11656
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B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV/DEC 2022

Fourth Semester

Instrumentation and Control Engineering

(Common to Electronics and Instrumentation Engineering)

20ICPC402 - INDUSTRIAL INSTRUMENTATION

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

	<i>Marks, K-Level, CO</i>
1. Define Viscosity.	2,K1,CO1
2. Differentiate between absolute humidity and relative humidity.	2,K1,CO1
3. What are the different methods of cold junction compensation in thermocouple?	2,K1,CO2
4. State the working principle of special type of thermometers.	2,K1,CO2
5. Define Stagnation pressure.	2,K1,CO3
6. Define Absolute and Gauge pressure.	2,K1,CO3
7. State the guidelines for selection of flow meter.	2,K1,CO4
8. State the limitations of vortex shedding flow meter.	2,K1,CO4
9. What are the three different types of excitation scheme used in electromagnetic meter?	2,K1,CO5
10. State two applications of solid state flow measurement.	2,K1,CO5

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Describe about the working of Say bolt viscometer with neat sketch.	13,K1,CO1
OR	
b) Illustrate about any two methods of Moisture measurement with neat diagram.	13,K1,CO1
12. a) Explain filled system thermometers with its types.	13,K2,CO2
OR	
b) Elucidate the working of Bimetallic thermometer in detail.	13,K2,CO2
13. a) Discuss in detail about bourdon tubes and its types with neat sketches.	13,K1,CO3
OR	
b) Discuss in detail about rotameter and its types with neat sketches.	13,K1,CO3

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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14. a) Examine the working of Ultrasonic flow meter by analyzing its application in real time in detail. *13,K2,CO4*

OR

- b) Explain the theory of electromagnetic type flow meters with neat diagrams. *13,K2,CO4*
15. a) Describe with a neat sketch the construction and working of Laser Doppler Anemometer and Vortex shedding flow meter. *13,K2,CO5*

OR

- b) Explain the working principle of open channel flow measurement. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) With a neat diagram explain the working of float type level measurement. *15,K2,CO6*

OR

- b) Explain about any two types of level measurement. *15,K2,CO6*