

Model Question Paper-2 with effect from 2019-20 (CBCS Scheme)

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Fourth Semester B.E. Degree Examination

Process Instrumentation

TIME: 03 Hours

Max. Marks: 100

Note: 01. Answer any **FIVE FULL QUESTIONS**, choosing at least **ONE QUESTION** from each **MODULE**.

Module -1

- Q.01 a Explain the principle and working of liquid filled mechanical thermometers. 10
 b Discuss the principle and construction elements of platinum resistance thermometer. 10

OR

- Q. 02 a With its working principle, explain the working of thermocouple circuits. 10
 b Define pyrometer and when these instruments are preferred. Illustrate the working of optical pyrometer. 10

Module – 2

- Q. 03 a Explain the working of venturi tube and pitot tube with schematic diagrams 12
 b Explain the working principle of electromagnetic flow meter with necessary equation and advantage. 08

OR

- Q. 04 a Describe the operation of transit time ultrasonic flow meter with its equation. 10
 b With its working principle, explain the operation of laser anemometer. 10

Module – 3

- Q. 05 a Explain the working of electromagnetic and electrodynamic type transducers for velocity measurement. 10
- b With an Illustration discuss the principle and working of force balance accelerometer with necessary equations. 10

OR

- Q. 06 a Explain the principle and working of chain balanced density indicator and chain balanced density transmitter. 12
- b Discuss the operation of sound velocity type density measurement technique. 08

Module-4

- Q. 07 a Define Viscosity. Describe the working of capillary extrusion viscometer with necessary diagram. 10
- b Illustrate the working of cone and plate plastometer. 10

OR

- Q. 08 a Explain the working of industrial type falling piston viscometer. 10
- b Define turbidity. Describe the working operation of light scattering turbidity meter. 10

Module-5

- Q. 09 a Define psychrometer. Explain the working wet and dry bulb psychrometer. 10
- b With the neat diagram, explain microprocessor based dew point instrument for humidity measurement. 10

OR

- Q. 10 a Describe the working of capacitance type hygrometer. 10
- b With the necessary equations and diagram, discuss the working of nuclear moisture gauge method. 10