Code No: 07A41002 **R07** **Set No. 2**

II B.Tech II Semester Examinations,April/May 2012
INDUSTRIAL INSTRUMENTATION
Instrumentation And Control Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) How the aluminum - oxide technology is used to measure the relative humidity of atmosphere ?
   (b) Explain the method of measuring relative humidity using dry and wet mirrors and LEDs with a neat sketch?
2. What are mechanical Tachometers? Explain with examples. Describe the disadvantages of mechanical Tachometers. [16]
3. Explain how electromechanical types of transducers can be used in conjunction with elastic pressure elements for measurement of pressure. [16]
4. (a) Describe the scattering and absorption effects of various gases and particles by the radiation ?
   (b) Describe a circuit using lead sulphide cell for photon detectors ? [16]
5. (a) Explain the working principle of orifice meter for the measurement of flow.
   (b) Differentiate between orifice meter and flow nozzle ? [16]
6. (a) Name the various instruments used for measuring angles.
   (b) Explain the use of sine bar for measuring angle of a taper plug gauge with the help of a neat sketch. [8+8]
7. What is a seismic type velocity transducer? Explain its construction and working with the help of a neat diagram. Explain how it can be used for measurement of acceleration in vibration measurements? [16]
8. (a) How the rotating gyroscope meter is used to measure the mass flow rate of fluids?
   (b) Differentiate between vibrating gyroscope meter and rotating gyroscope meter used to measure mass flow ? [1o+6]

⋆ ⋆ ⋆ ⋆ ⋆

Code No: 07A41002 **R07** **Set No. 4**

II B.Tech II Semester Examinations,April/May 2012
INDUSTRIAL INSTRUMENTATION
Instrumentation And Control Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. Explain how electromechanical types of transducers can be used in conjunction with elastic pressure elements for measurement of pressure. [16]

2. (a) Describe the scattering and absorption effects of various gases and particles by the radiation ?
   (b) Describe a circuit using lead sulphide cell for photon detectors ? [16]

3. (a) Name the various instruments used for measuring angles.
   (b) Explain the use of sine bar for measuring angle of a taper plug gauge with the help of a neat sketch. [8+8]

4. (a) How the rotating gyroscope meter is used to measure the mass flow rate of fluids?
   (b) Differentiate between vibrating gyroscope meter and rotating gyroscope meter used to measure mass flow ? [16]

5. (a) Explain the working principle of orifice meter for the measurement of flow.
   (b) Differentiate between orifice meter and flow nozzle ? [16]

6. What is a seismic type velocity transducer? Explain its construction and working with the help of a neat diagram. Explain it can be used for measurement of acceleration in vibration measurements? [16]

7. What are mechanical Tachometers? Explain with examples. Describe the disadvantages of mechanical Tachometers. [16]

8. (a) How the aluminum - oxide technology is used to measure the relative humidity of atmosphere ?
   (b) Explain the method of measuring relative humidity using dry and wet mirrors and LEDs with a neat sketch [16]

⋆ ⋆ ⋆ ⋆ ⋆

Code No: 07A41002 **R07** **Set No. 1**

II B.Tech II Semester Examinations,April/May 2012
INDUSTRIAL INSTRUMENTATION
Instrumentation And Control Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. (a) How the aluminum - oxide technology is used to measure the relative humidity of atmosphere ?
   (b) Explain the method of measuring relative humidity using dry and wet mirrors and LEDs with a neat sketch [16]

2. What is a seismic type velocity transducer? Explain its construction and working with the help of a neat diagram. Explain it can be used for measurement of acceleration in vibration measurements? [16]

3. (a) Name the various instruments used for measuring angles.
   (b) Explain the use of sine bar for measuring angle of a taper plug gauge with the help of a neat sketch. [8+8]

4. Explain how electromechanical types of transducers can be used in conjunction with elastic pressure elements for measurement of pressure. [16]

5. (a) Describe the scattering and absorption effects of various gases and particles by the radiation ?
   (b) Describe a circuit using lead sulphide cell for photon detectors ? [16]

6. (a) How the rotating gyroscope meter is used to measure the mass flow rate of fluids?
   (b) Differentiate between vibrating gyroscope meter and rotating gyroscope meter used to measure mass flow ? [16]

7. What are mechanical Tachometers? Explain with examples. Describe the disadvantages of mechanical Tachometers. [16]

8. (a) Explain the working principle of orifice meter for the measurement of flow.
   (b) Differentiate between orifice meter and flow nozzle ? [16]

⋆ ⋆ ⋆ ⋆ ⋆

Code No: 07A41002 **R07** **Set No. 3**

II B.Tech II Semester Examinations,April/May 2012
INDUSTRIAL INSTRUMENTATION
Instrumentation And Control Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. What is a seismic type velocity transducer? Explain its construction and working with the help of a neat diagram. Explain it can be used for measurement of acceleration in vibration measurements? . [16]

2. (a) How the rotating gyroscope meter is used to measure the mass flow rate of fluids?
   (b) Differentiate between vibrating gyroscope meter and rotating gyroscope meter used to measure mass flow ? [16]

3. (a) Name the various instruments used for measuring angles.
   (b) Explain the use of sine bar for measuring angle of a taper plug gauge with the help of a neat sketch. [8+8]

4. What are mechanical Tachometers? Explain with examples. Describe the disadvantages of mechanical Tachometers. [16]

5. (a) Explain the working principle of orifice meter for the measurement of flow.
   (b) Differentiate between orifice meter and flow nozzle ? [16]

6. (a) How the aluminum - oxide technology is used to measure the relative humidity of atmosphere ?
   (b) Explain the method of measuring relative humidity using dry and wet mirrors and LEDs with a neat sketch [16]

7. Explain how electromechanical types of transducers can be used in conjunction with elastic pressure elements for measurement of pressure. [16]

8. (a) Describe the scattering and absorption effects of various gases and particles by the radiation ?
   (b) Describe a circuit using lead sulphide cell for photon detectors ? [16]

⋆ ⋆ ⋆ ⋆ ⋆