Q.22 Write any four applications of magnetic type proximity sensor.

SECTION-D

Note: Long answer questions. Attempt any two questions out of three Questions. (2x8=16)

Q.23 What is measurement system? Draw and explain the elements of a generalized measurement system.

Q.24 What is load cell. What are the types of it? Explain column type load cell. Write any two applications of load cell.

Q.25 Explain the working of the following with diagram.

a) Hydrometer

b) Gamma rays method of density measurement

6th Sem.
Branch : Instrumentation & Control
Sub. : Advance Measurement Techniques

Time : 3 Hrs.   M.M. : 60

SECTION-A

Note: Multiple type Questions. All Questions are compulsory. (6x1=6)

Q.1 In a measurement system, the input first touches the _____ block.

a) Variable conversion element

b) Data representation element

c) Data transmission element

d) Primary sensing element.

Q.2 Which of the following instrument is used to measure angle

a) Vernier caliper   b) Clinometers

c) Numerical method   d) Meter rods

Q.3 A seismic velocity measurement instrument consists of

a) Mass   b) Spring

c) Damper   d) All of the above

Q.4 Which of the following instruments is used to measure the angular velocity

a) Doppler Transducer

b) LVDT

c) Tooth rotor variable reluctance tachometer

d) Potentiometer

Q.5 Ultrasonic method is used for the measurement of_____.

a) Thickness   b) Vibrations

c) Viscosity   d) pH of the solution

Q.6 Which of the following proximity sensor is used to detect metallic and non-metallic objects

a) Inductive proximity sensor

b) Capacitive proximity sensor

c) Ultrasonic proximity sensor

d) None of the above

SECTION-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Numerical method is used for the _____ measurement.

Q.8 A protractor can measure angle up to 360°. (True / False)

Q.9 Electromagnetic type linear velocity measurement method works on the principle of _____.

Q.10 A pH value of 5.2 shows acidic behaviour. (True / False)

Q.11 Falling piston method is used to measure_____.

Q.12 Define angle.

SECTION-C

Note: Short answer type Questions. Attempt any eight questions out of ten Questions. (8x4=32)

Q.13 Draw the functional block diagram of measurement system.

Q.14 Draw and explain the input - output configuration of instrument system.

Q.15 How graphical methods is used for the measurement of area?

Q.16 Explain the working of Tape for the measurement of length.

Q.17 Draw and explain the photo electric tacho generator.

Q.18 What is stroboscope? How it is used to measure angular velocity?

Q.19 Draw and explain the method of measurement of pH.

Q.20 Explain how a capacitor is used to measure the thickness of an object.

Q.21 Explain the working of falling sphere viscometer.