

- Q.29 How we can measure the viscosity by falling sphere.  
 Q.30 Explain Graphical method for measurement of area.  
 Q.31 Discuss the construction of photo voltaic cell.  
 Q.32 What are the strain gauge Accelerometer?  
 Q.33 List the various applications & advantages of scale.  
 Q.34 What is photo conductor? Explain.  
 Q.35 What are the light Attenuation technique?

#### SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)  
 Q.36 What are the length measuring standard. Explain with one example.  
 Q.37 What is LVDT? Explain in detail.  
 Q.38 What it is pH? Write the principle of pH measurement in detail.

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#### 6th Sem / Branch : Instrumentation & Control Sub. : Advanced Measurement Techniques

Time : 3Hrs.

M.M. : 100

#### SECTION-A

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 \_\_\_\_\_ is the example of photo emissive cell.  
 a) LDR                                      b) Photodiode  
 c) Phototransistor                      d) Photomultiplier
- Q.2 A measuring system consists of \_\_\_\_\_  
 a) Sensor  
 b) Variable conversion element  
 c) Signal Processing element  
 d) All of these
- Q.3 The principle of operation of LVDT is based on the of variation of  
 a) Self-inductance                      b) Mutual inductance  
 c) Reluctance                              d) Permanence
- Q.4 Potentiometer is used for the measurement of \_\_\_\_\_  
 a) Linear displacement  
 b) Angular displacement  
 c) Non-linear displacement  
 d) All of these

- Q.5 When forward biased LED emits light because
- Recombination of carriers
  - Light generated in Breaking the covalent bonds
  - Light produced by collision
  - All of the above reasons
- Q.6 Displacement = ?
- Acceleration/Time
  - Velocity X time
  - Speed X time
  - Velocity /time
- Q.7 Unit of capacitor
- Hertz
  - Farad
  - Henry
  - Ohm
- Q.8 LDR stands for
- Light dependant resonance
  - Liner dependent resistor
  - Light differential resister
  - Light dependent resistor
- Q.9 The rate at which fluid flows through closed pipe can be determined by
- Determining the mass flow rate
  - Determining the volume flow rate
  - Either A & B
  - None of these
- Q.10 What is the unit of mass
- Kg
  - Second
  - Newton
  - Ohm

## SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Unit of acceleration.
- Q.12 Define the instrument.
- Q.13 Expand LED.
- Q.14 Define measurement.
- Q.15 Draw the symbol of capacitor\_\_\_\_\_.
- Q.16 Define light supersession.
- Q.17 What is pH.
- Q.18 Unit of frequency is.
- Q.19 Write the on name of light modulating technique.
- Q.20 Write the one method for density measurement.

## SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Discusses seismic transducer.
- Q.22 Explain any one type of photo sensitive device.
- Q.23 Describe I/O configuration of instrumentation system.
- Q.24 Write a short note on hydrometer.
- Q.25 What is Tachogenerator and write its two applications
- Q.26 Draw the functional elements of measuring system.
- Q.27 What are the gamma rays?
- Q.28 Write a short note on micrometer.