

ASSIGNMENT 1

1. State and explain fundamental elements of instrumentation system.
2. Define the following terms:
 1. Accuracy
 2. Precision
 3. Resolution
 4. Repeatability
 5. Hysteresis
 6. Drift
 7. Linearity
 8. Sensitivity
 9. Threshold
 10. Deadband
 11. Backlash.
3. Compare and explain static and dynamic characteristics of a device.
4. What is transducer? Explain the different types of transducer.
5. Compare active and passive transducer.
6. Define the following terms: 1. Strain 2. Gauge factor.
7. Explain the principle of operation of electrical resistance strain gauge.
8. Explain how temperature compensation is achieved in strain gauge circuit.
9. Prove that $GF = 1 + 2\nu + \frac{\partial \rho / \rho}{\partial L / L}$.
10. Explain the principle, construction, working and limitations of the LVDT.