

Q1:- Attempt any four parts of the following .

1. Differentiate between the following terminology dealing with them
 3. Explain the working principle of Q-meter.
- (i) Reproducibility and Drift
- (ii) Dead zone and Hysteresis.
2. Discuss the advantages and disadvantages associated with capacitive transducers.
3. Explain the working principle of Kelvin Bridge.

Q5:- Write short notes on any four of the following:

4. Mention the merits and demerits of digital measurement over analog measurements.
 1. Spectrum Analyzer and Distortion.
5. Explain how measurement of high resistances can be done.
 2. Concept of ECE and EEG.
6. Classify transducers by taking suitable examples and mention their area of application.
 3. Sampling Oscilloscopes and its application area.
 4. Dual slope integrating method used in A/D converter.
 5. Electronic analog ohmmeter and multimeter.
 6. Non-sinusoidal and function generators.

Q2:- Attempt any two parts of the following :

1. A high resistance of 200 MΩ has a leakage resistance of 400 MΩ between each of its main terminals and the guard terminal. Find the percentage error in its measurement if the above resistance is measured by an ordinary Wheatstone bridge without providing guard circuit.
2. Explain the working principle Galvanometer and distinguish between DC ammeter and DC voltmeter.
3. Describe in DFM (Digital Frequency Meter) and how we measure frequency with the help of DFM?

Q3:- Attempt any two parts of the following :

1. Compare and contrast the performance of successive approximation type ADC with that of counter type ADC.
2. Draw the block diagram of digital frequency meter. Explain its principle of operation.
3. Explain the working of a digital volt meter. List different types of DVM's. How can a DVM be used to measure the current?

Q4:- Attempt any two parts of the following :

1. Explain the working principle of Capacitance Bridge. Discuss its advantages and disadvantages.
2. Discuss the need for input attenuation and amplification with a digital frequency meter. Draw waveform to illustrate the errors that can be produced by noisy waveforms, and the method of