

EE 8403 Measurements and Instrumentation

Important 13mark questions

Unit I

1. Elaborate the working of Moving iron instrument and derive the torque equation of the Moving iron instrument.
2. Explicate the static and dynamic characteristics of an instrumentation system.
3. What are the different types of errors? Explain how to eliminate errors in instruments.

Unit II

1. State Blondel's theorem and explain how the power measurement using two wattmeter method.
2. Describe the step by process involved in determination of B-H curve and hysteresis loop.
3. With neat sketch, explain the construction and operation of repulsion type moving iron instrument. Give the advantages and limitations of such instruments.

Unit III

1. Derive the expressions for measurement of unknown capacitance with a neat bridge circuit.
2. Derive the expressions for measurement of unknown inductance using Hays bridge.
3. Draw the diagram of Co-ordinate type A. C. potentiometer and explain its working principle.

Unit IV

1. Explain in detail about the various types of Recorders.
2. Explain in detail about the LED and LCD displays.
3. With neat diagram explain the basic components and working principle of magnetic tape recorders.

Unit V

1. Elaborate the types of resistive and inductive transducers used for measuring pressure.
2. Elucidate the elements of data acquisition system.
3. Explain smart sensors with built in features. Compare with conventional sensors.