8. Unit wise Question Bank

UNIT WISE OBJECTIVE TYPE QUESTION BANK, SHORT AND LONG ANSWER TYPE QUESTIONS

UNIT-I (2 marks)

1	List types of errors
2	Define Accuracy and Precision
3	Define Resolution and Sensitivity
4	Describe the D'Arsonval principle.
5	Define statistic characteristics? Enlist Static characteristics
6	Define Dynamic characteristics?Enlist Dynamic characteristics
7	Define Reproducibility and Lag
8	Explain mean, mode and median with an example.
9	Describe the advantages of digital voltmeter over analog voltmeter.
10	How to convert simple PMMC into a voltmeter.

(5marks)

11	a)	Compare series ohm-meter and shunt ohm-meter
	b)	How can you extend the range of Voltmeter? Elaborate with example.
12	a)	How can you extend the range of Ammeter? Elaborate with example.
	b)	With help of a neat diagram, explain the block diagram of functional elements of the measurement system.
13	a)	Explain types of Errors.
	b)	For PMMC,In equilibrium, show that i≈ K.θ
14	a)	Draw and explain Aryton shunt or universal Shunt Ammeter.
	b)	Draw the Ramp type Digital voltmeter and explain its operation in detail
15	a)	Define Fidelity? Create the calibration of series type ohmmeter
	b)	Explain True RMS Responding Voltmeter with neat diagram and write its applications
16	a)	Define Sensitivity and Explain Loading effect of Voltmeter.
	b)	Draw and explain digital multimeter

UNIT-II (2 marks)

1	List out the few applications of AF oscillator.
2	What is wave analyzer and explain its block diagram
3	What is spectrum analyzer and write its types.
4	Why harmonic distortion Analyzer is used? Write its types
5	Write the applications of Function generators
6	Write the Applications of Pulse and Square wave generator
7	Give the types of AF generator and RF Generator.
8	Which waveforms will be generated by function generator?

9		Draw wein bridge oscillator and write the values of A and β .
10		What is harmonic distortion? How to measure it

(5 Marks)

11	a)	Conclude the need of Function generator
	b)	Briefly explain the working of the function generator with a neat diagram and write its applications
12	a)	Explain the working of the AF wave analyzer with help of a neat diagram.
	b)	Draw and explain sweep frequency generator also write its applications.
13	a)	What is Harmonic distortion Analyzer and explain any two types of Fundamental suppression techniques.
	b)	What is Heterodyne and explain the operation of Heterodyne wave analyzer along with its circuit diagram.
14	a)	Explain pulse and square wave generator with neat diagram and also write its applications.
	b)	Elaborate spectrum Analyzer and its types, also write its applications
15	a)	What is AF oscillators and explain its operation along with circuit diagram.
	b)	Draw the block diagram AF wave analyzer and explain its working
16	a)	Draw and explain the block diagram of arbitrary waveform generator and explain the advantages .
	b)	Differentiate wave analyzer and Harmonic diction analyzer

UNIT-III(2 Marks

1	List out the different applications of CRO.
2	What is the need of Delay line in CRO?
3	Explain what is the need of Trigger circuit in CRO Block diagram.
4	Describe the working principle of Sampling Oscilloscopes.
5	What are Lissajous figures? On what factor shape of the figures depends?
6	How time period and frequency measured are related to each other?
7	Differentiate between dual beam CRO and Dual Trace CRO.
8	Define fluorescence and persistence of CRO.
9	Write the applications of Dual beam CRO
10	Define deflection sensitivity of CRT.

1. (5 Marks)

11	a)	Compare Analog storage and digital storage CROs
	b)	How can you measure frequency and phase using Lissajous figures? Elaborate.
12	a)	Conclude the need of Time Base Circuits in CRO.
	b)	Explain the of working of sampling Oscilloscope with a neat sketch.
13	a)	With neat diagram, enumerate the main components of CRT and explain.
	b)	Draw the circuit diagram of Dual Trace oscilloscope and explain its operation in detail
14	a)	Draw the Block schematic of CRO and explain function of each block.
	b)	Draw the block diagram of Dual Beam oscilloscope and explain its operation in detail
15	a)	Compare and contrast sampling and storage oscilloscopes.
	b)	Draw and explain Lissajous figures
16	a)	Illustrate with neat sketch about horizontal amplifier.
	b)	How to measure time- period and frequency using oscilloscope?

ELECTONICS MEASUREMENTS & INSTRUMENTATION

UNIT-IV (2 Marks)

1		What is Piezo electric effect?
2		Explain the importance of Thermocouples with one example.
3		Classify the Transducers
4		Give the principle of Thermocouple and mention its application
5		What is the need of bridges in measuring systems?
6		Describe the working principle of Bounded strain gauge.
7		Explain the basic principal of Strain guage.
8		Define Gauge factor for transducer and explain its significance.
9		Explain Primary and secondary Transducers
10		Explain the different Advantages of Electrical Transducers

(5 Marks)

11	a)	Explain the working principle of Synchros and summarize its application
	b)	Explain the working principle of Gyroscope and summarize its application.
12	a)	Briefly discuss the working of LVDT with neat block diagram.
	b)	Explain the Resistive position Transducer along with circuit diagram
13	a)	How do you measure liquid level? Explain.
	b)	Describe the dry and wet bulb Hygrometer
14	a)	Describe the hotwire anemometer.
	b)	Illustrate thermocouple in detail.
15	a)	Explain about force Transducers with neat diagram.
	b)	What are pressure transducers? Explain about capacitive pressure transducer
16	a)	Analyze digital temperature sensing system.
	b)	Derive the expression for Gauge factor of a strain Gauge.

UNIT-V(2 Marks)

1	List out different flow measurement method.
2	List important blocks of data Acquisition system.
3	Write about pressure sensors.
4	What is meant by data acquisition
5	Give the applications of Kelvin's bridge
6	Derive the balance condition of Bridge.
7	Explain the characteristics of DAS
8	Explain the significance of load cell in force measurement.
9	Explain any one of the method for the measurement of humidity?
10	Write the principle of an accelerometer.

(5 Marks)

11	a)	Draw and explain Data Acquisition system.
	b)	How could you measure Velocity? Elaborate
12	a)	Construct the bridge circuit to measure inductance and develop relation for unknown Inductance.
	b)	With help of a neat diagram, explain the working of turbine type flow meter and write

		its applications
13	a)	Describe the measurement of force with suitable example.
	b)	Discuss the measurement of Moisture.
14	a)	With the help of a neat sketch explain the principle and working of Electromagnetic Flow meter. What are the advantages and Applications of this Method?
	b)	How angular speed shall be measured using the digital method?
15	a)	Draw and explain Maxwell's bridge.
	b)	Elaborate how would you measure Temperature with the help of transducers
16	a)	Write short note on Measurement of displacement.
	b)	With the help of circuit diagram Explain Wheat stone bridge.