R18

Reg. No:

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Supplementary Examinations August-2021
ELECTRONIC MEASUREMENTS AND INSTRUMENTATION
(Electronics and Communication Engineering)

Time: 3 hours　　　　　　　　　　　　　　　　　　　　　　　　Max. Marks: 60

PART-A
(Answer all the Questions 5 x 2 = 10 Marks)

1	a	What is the difference between accuracy and precision of measurement?	2M
	b	What is the principle of CRO?	2M
	c	Mention the applications of wave analyzer.	2M
	d	Draw the circuit of Kelvin's Double Bridge.	2M
	e	Define sensor and transducers.	2M

PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

2	a	Explain about static characteristics of measuring instrument.	5M
	b	Discuss about basic DC Ammeters	5M

OR

3	a	Explain the fundamental principle of AC voltmeter.	5M
	b	Explain different types of errors that occur in measurements.	5M

UNIT-II

4	a	Explain the major parts of CRT with a block diagram.	5M
	b	What are the different types of CRO probes?	5M

OR

5	a	Describe in details the construction and working of a digital storage oscilloscope.	5M
	b	Explain with a diagram how phase can be measured using a Lissajous method	5M

UNIT-III

6	a	With the help of block diagram, explain the functioning of a conventional standard signal generator.	5M
	b	Write about fixed AF oscillator and variable AF oscillator.	5M

OR

7	a	Describe with diagram the operation of a Logic analyzer.	5M
	b	What is the function of wave analyzer?	5M

UNIT-IV

8		Explain the operation of Kelvin Bridge and derive necessary equation.	10M

OR

9	a	Write short note on interference &explain noise reduction techniques.	5M
	b	A Maxwell bridge is used to measure an inductive impedance the bridge constants at balance are C1=0.01 μF, R1=470KΩ, R2=5.1 KΩ and R3=100 KΩ. Find the series equivalent of the unknown impedance.	5M

UNIT-V

10	a	Draw the diagram of Resistance Thermometer & explain briefly.	5M
	b	Briefly discuss about Velocity transducers.	5M

OR

11	a	Discuss about Accelerometer.	5M
	b	With a neat sketch, explain the operation of piezo-electric transducers in detail.	5M

END