

Reg. No:

--	--	--	--	--	--	--	--	--	--

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech III Year I Semester Supplementary Examinations Feb-2021

ELECTRONIC MEASUREMENTS AND INSTRUMENTATION

(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 a Explain the construction of multi-range voltmeter & Range extension DC voltmeter. 5M
b Draw and explain solid state DC Voltmeter. 7M

OR

- 2 a A D'Arsonval movement with a full scale deflection current of 50 μ A and internal resistance of 500 Ω is to be converted into a multirange voltmeter. Define the value of multiplier required for 0-20v, 0-50v, 0-100v 6M
b Explain how a multi-meter can be used as i) DC voltmeter & AC volt meter 6M

UNIT-II

- 3 a Draw the block diagram of a general purpose oscilloscope(CRO) and explain function of each block in detail. 8M
b Explain the function of trigger circuit. 4M

OR

- 4 a Explain with the block diagram how the digital frequency can be measured using counter/meter instrument. 7M
b Explain with a diagram how frequency & phase can be measured using a Lissajous method. 5M

UNIT-III

- 5 a Draw the block diagram of a function generator and explain its operation. 6M
b With a neat diagram discuss the operation of a pulse generator. 6M

OR

- 6 a With the help of block diagram explain the functioning of a conventional standard signal generator. 7M
b List the application of wave analysers 5M

UNIT-IV

- 7 a Explain the Schering bridge circuit 6M
b Derive the expression for unknown resistance of kelvin bridge. 6M

OR

- 8 a Explain any Two ac bridges to measure unknown inductance. 6M
b What is interference and explain noise reduction techniques. 6M

UNIT-V

- 9 a Explain strain gauge for resistance measurement. 8M
b What are the advantages & disadvantages of LVDT. 4M

OR

- 10 a With a neat sketch, explain the operation of piezo-electric transducers in detail. 6M
b Explain about pH measurement. 6M

*** END ***