Q.P. Code: 16EE224 **R16**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year II Semester Regular & Supplementary Examinations October-2020

ELECTRICAL & ELECTRONIC MEASUREMENTS

(Electrical & Electronics Engineering)

Time: 3 hours Max. Marks: 60

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

UNIT-I

1	**a**	Explain the Classification of Instruments with examples.	**6M**
	b	Derive an expression for the Deflecting torque in MI type instruments.	**6M**

OR

2	**a**	Explain the construction and working principle of PMMC instrument along with its torque equation.	**8M**
	b	List the errors in PMMC instrument.	**4M**

UNIT-II

3	**a**	Explain how the Resistances are classified?	**4M**
	b	Explain the working Principle of Kelvin's double bridge method for measurement of low resistance and derive the condition for balance.	**8M**

OR

4	**a**	With the help of Circuit diagram explain how capacitance can be measured by the use of Schering bridge.	**8M**
	b	Define power factor and loss angle.	**4M**

UNIT-III

5	**a**	Explain the construction and working of single phase dynamometer type wattmeter with neat sketch.	**8M**
	b	Explain the errors in single phase energy meter.	**4M**

OR

6	**a**	Explain the measurements of LPF and UPF.	**6M**
	b	Explain about creeping and its compensation in single phase induction type energy meter.	**6M**

UNIT-IV

7	**a**	Derive the expressions for 'actual transformation(voltage),ratio and Phase angle' in case of Potential Transformer.	**8M**
	b	How the errors can be reduced on Instrument Transformers.	**4M**

OR

8	**a**	Describe the Construction and working of a polar type potentiometers .Explain the method for standardizing it.	**8M**
	b	Discuss the significance of standardization	**4M**

UNIT-V

9	**a**	Describe briefly how the following measurements can be made with the use of CRO. (i) Frequency (ii) Phase angle (iii) Voltage	**9M**
	b	Write short notes on Flux meter.	**3M**

OR

10	**a**	Write short notes on Horizontal and vertical amplifier with neat sketch.	**8M**
	b	List out the applications of digital meters.	**4M**

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