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Learnir	ng R	eso	ur	ce	Centr	0
Acharya	Insti	tute	&	Tec	hnolog	y

CRCS SCHEME

Acha	rya ins	titut	e & Technology	
	USN	P		18MT46
			Fourth Semester B.E. Degree Examination, Feb./Mar. 2022	
			Instrumentation and Measurements	
	m:	2	Alan Ma	arks: 100
	1 1m		IIIS.	
		No	ote: Answer any FIVE full questions, choosing ONE full question from each mod	inic.
نه			Module-1	(10 Marks)
solank pages. 50, will be treated as malpractice.	1	a.	With a neat diagram, explain the elements of generalized measurement system. Explain deflection and null type instrument with neat figures and give comparison	
nalpr		b.	them.	(10 Marks)
l as r			OR	
catec	2	a.	Briefly explain input-output configurations of measuring instruments and me	easurement
ges.		u.	systems.	(10 Marks)
k pag will		b.	Explain the functions and any two applications of measurement systems.	(10 Marks)
blan = 50,			Module-2	
ning 2+8	3	a.	Explain the working principle of successive approximation digital voltammeter.	(10 Marks)
emai		b.	With neat block diagram, explain the working of digital multimeter.	(10 Marks)
the r			OR	
s on s wri	4	a.	With net block diagram, explain the working of digital frequency meter.	(10 Marks) (10 Marks)
npulsorily draw diagonal cross lines on the remaining blank pages. The potential potential of the evaluator and for equations written eg. $42+8=50$, will be		b.	With neat block diagram, explain digital measurement of time.	(10 1/14/16)
cros			Module-3	(10 Marks)
onal d/or	5	a.	With neat block diagram, explain dual beam CRO. Explain digital storage oscilloscope with neat diagram.	(10 Marks)
diag or an		b.		
draw	_		OR Explain the operation of sampling oscilloscope with neat block diagram.	(10 Marks)
orily to ev	6	a. b.	Draw the basic diagram of a Cathode Ray Tube. Explain the features of a CRT.	(10 Marks)
pulse seal 1		0.	X.	
com,	7	0	Explain Wheatstone's bridge with a neat diagram. What are its advantages	? Write its
On completing your answers, com	,	a.	applications	(10 Marks)
ansv		b.	Explain Maxwell's bridge with a neat diagram. What are the advantages and lin	(10 Marks)
your of ide			Maxwell's bridge?	(10 Marks)
ting ino	0		OR	(10 Mayles)
mple	8	a.	Explain Wagner's earth connection with a neat diagram. Explain Wien's bridge with a neat diagram and derive the equation for frequency.	(10 Marks) nency of the
n co		b.	applied voltage.	(10 Marks)
	i			
Important Note: 1.	9	a.	Module-5 Define an electrical transducer. List the factors to be considered while selecting a	a transducer.
ant N	9		And the second s	(10 Marks) (10 Marks)
port		b.	With neat diagram, explain resistive position transducer.	(IU Maiks)
Im			OR	

a. Explain the construction and working of LVDT.
b. Explain the basic operation of: i) LED ii) LCD. (10 Marks) (10 Marks)