

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER- III EXAMINATION – SUMMER 2020****Subject Code: 3131706****Date: 28/10/2020****Subject Name: Measurement and Instruments****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Differentiate between indicating and recording instruments with examples.	03
	(b) Explain the loading effect in meters	04
	(c) What is full form of 'PMMC'? Discuss working of PMMC meter with diagram	07
Q.2	(a) How Voltmeter- Ammeter method can be used to measure unknown resistance? Explain in detail.	03
	(b) Explain sweep frequency generator in brief.	04
	(c) Explain Wien Bridge to find out unknown frequency.	07
	OR	
	(c) Explain Kelvin double bridge method to find out low resistance.	07
Q.3	(a) Draw RS-232 pin diagram	03
	(b) Explain 'Potential transformers' with applications.	04
	(c) Draw and explain block diagram of Digital Multi-meter.	07
	OR	
Q.3	(a) Give the differences between current transformer and potential transformer	03
	(b) Explain 7 segment display in short.	04
	(c) Draw and explain basic block diagram of CRO.	07
Q.4	(a) Explain function generator with block diagram.	03
	(b) Explain different types of measurement error.	04
	(c) Explain capacitive interference, inductive interference and shielding.	07
	OR	
Q.4	(a) Explain power measurement in single phase.	03
	(b) Explain any one method of frequency measurement in short	04
	(c) How Wheatstone bridge can be used to find out unknown resistance. Explain with circuit diagram.	07
Q.5	(a) Write a short note on LCD.	03
	(b) What is a Lissajous pattern in oscilloscope? Explain its applications	04
	(c) Write short note on vertical deflection sub-system of oscilloscope.	07
	OR	
Q.5	(a) Explain in short pulse generator	03
	(b) Explain Hay's bridge.	04
	(c) What is current transformer? Explain its working with construction diagram.	07
