

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (NEW) EXAMINATION – SUMMER 2021****Subject Code:3131706****Date:11/09/2021****Subject Name:Measurement and Instruments****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
Q.1	(a) Explain the terms: Capacitance and Capacitors in detail	03
	(b) Demonstrate Indicating type instruments.	04
	(c) Explain special purpose analog meter.	07
Q.2	(a) Define Dynamometer.	03
	(b) Explain Zero-beat Frequency Meter in brief.	04
	(c) Discuss Whetstone bridge to find out unknown resistance with circuit diagram.	07
OR		
	(c) Explain polyphase power measurement.	07
Q.3	(a) How a PMMC instrument can be used as a flux meter?	03
	(b) Explain weighted Binary Resistive type DAC.	04
	(c) What are Universal Time-Counters? Explain with Block diagram.	07
OR		
Q.3	(a) Define Resolution.	03
	(b) How Voltmeter- Ammeter method can be used to measure unknown resistance? Explain in detail.	04
	(c) How electronics timers are working? Explain in detail.	07
Q.4	(a) Explain Current transformers with applications	03
	(b) Explain Function of RS 232C Standard in detail.	04
	(c) Describe how to find unknown inductor value by Maxwell bridge.	07
OR		
Q.4	(a) Explain seven segment displays.	03
	(b) Draw block Diagram of CRO.	04
	(c) Explain Schering bridge method to measure unknown capacitance.	07
Q.5	(a) Explain the Lissajous pattern in detail.	03
	(b) Define interference? Explain ground loop interference.	04
	(c) Draw and explain Analog to Digital convertor.	07
OR		
Q.5	(a) Define power factor.	03
	(b) Give the differences between current transformer and potential transformer.	04
	(c) Explain Digital multimeter with its block diagram.	07