

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-IV (NEW) - EXAMINATION – SUMMER 2017****Subject Code: 2141704****Date: 03/06/2017****Subject Name: Measurement & 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.

		<b>MARKS</b>
<b>Q.1</b>	<b>Short Questions</b>	<b>14</b>
	1 List out the recording instruments.	
	2 List out the indicating instruments.	
	3 Give the full form of DVM.	
	4 Give the full form of DSO.	
	5 Give the application of oscilloscope.	
	6 Which bridge is used for the measurement of low value resistance	
	7 Explain Q factor.	
	8 Give the function of Transformers.	
	9 Which bridge is used for the measurement of unknown inductance?	
	10 List out the integrating instruments.	
	11 Which instrument is used to measure the speed.	
	12 Give the basic principle of Wheatstone bridge.	
	13 Define power factor.	
	14 Give the full form of LCD.	
<b>Q.2</b>	(a) Explain digital multimeters.	<b>03</b>
	(b) Explain Wheatstone Bridge.	<b>04</b>
	(c) Explain the working of oscilloscope in detail with neat diagram.	<b>07</b>
<b>OR</b>		
	(c) Explain the working of PMMC.	<b>07</b>
<b>Q.3</b>	(a) Explain Current transformers with applications.	<b>03</b>
	(b) Explain Sweep frequency generators.	<b>04</b>
	(c) Explain Maxwell Bridge with proper diagram.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Explain Potential transformers with applications.	<b>03</b>
	(b) Explain the Pulse generators.	<b>04</b>
	(c) Explain Schering Bridge.	<b>07</b>
<b>Q.4</b>	(a) Explain the Lissajous pattern in detail.	<b>03</b>
	(b) Explain seven segment display.	<b>04</b>
	(c) Explain different types of coupling.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) Explain Kelvin Double Bridge.	<b>03</b>
	(b) Explain Analog to Digital Converters	<b>04</b>
	(c) Explain grounding and shielding.	<b>07</b>
<b>Q.5</b>	(a) Explain analog AC ammeters and voltmeters.	<b>03</b>
	(b) Explain Magnetometer.	<b>04</b>
	(c) Explain Aderson Bridge.	<b>07</b>

**OR**

- Q.5** (a) Difference between inductance and capacitance. **03**  
(b) Explain ground level interference. **04**  
(c) Explain Poly-Phase measurements in detail. **07**

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