

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.

| | | MARKS |
|------------|--|--------------|
| Q.1 | Short Questions | 14 |
| | 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. | |
| Q.2 | (a) Explain digital multimeters. | 03 |
| | (b) Explain Wheatstone Bridge. | 04 |
| | (c) Explain the working of oscilloscope in detail with neat diagram. | 07 |
| | OR | |
| | (c) Explain the working of PMMC. | 07 |
| Q.3 | (a) Explain Current transformers with applications. | 03 |
| | (b) Explain Sweep frequency generators. | 04 |
| | (c) Explain Maxwell Bridge with proper diagram. | 07 |
| | OR | |
| Q.3 | (a) Explain Potential transformers with applications. | 03 |
| | (b) Explain the Pulse generators. | 04 |
| | (c) Explain Schering Bridge. | 07 |
| Q.4 | (a) Explain the Lissajous pattern in detail. | 03 |
| | (b) Explain seven segment display. | 04 |
| | (c) Explain different types of coupling. | 07 |
| | OR | |
| Q.4 | (a) Explain Kelvin Double Bridge. | 03 |
| | (b) Explain Analog to Digital Converters | 04 |
| | (c) Explain grounding and shielding. | 07 |
| Q.5 | (a) Explain analog AC ammeters and voltmeters. | 03 |
| | (b) Explain Magnetometer. | 04 |
| | (c) Explain Aderson Bridge. | 07 |

OR

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