

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER– III(OLD) EXAMINATION – SUMMER 2019****Subject Code: 130903****Date: 18/06/2019****Subject Name: Electrical And Electronics Measuring 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.

- Q.1** (a) Define and explain: (i) Precision (ii) Accuracy (iii) Sensitivity (iv) Resolution (v) Drift (vi) Repeatability (vii) Error. **07**  
 (b) Explain the voltage standards. **07**
- Q.2** (a) Describe the construction and working of PMMC instrument. **07**  
 (b) Differentiate between spring control and gravity control methods used to produce the controlling torque. **07**
- OR**
- (b) Explain construction working of D'Arsonval galvanometer. Also derive its torque equation. **07**
- Q.3** (a) Discuss the methods by which range of ammeter and voltmeter can be extended. **07**  
 (b) Give brief note on digital tachometer. **07**
- OR**
- Q.3** (a) Sketch and explain the construction and working of attracted disc type Kelvin absolute electrometer. **07**  
 (b) Explain the various factors which are taken in to consideration while selecting an electronic type analog voltmeter. **07**
- Q.4** (a) Explain the electrodynamicometer type wattmeter. **07**  
 (b) Draw the circuit diagram of a Crompton's Potentiometer & explain its working. Describe the steps used when measuring an unknown resistance. **07**
- OR**
- Q.4** (a) Differentiate AC and DC potentiometers. **07**  
 (b) Describe the constructional detail of single phase induction type energy meter. **07**
- Q.5** (a) Write a short note on Weston frequency meter. **07**  
 (b) Discuss the types of errors. Explain the causes of various types of errors. **07**
- OR**
- Q.5** (a) Write a short note on single phase electrodynamicometer type power factor meter. **07**  
 (b) Explain construction and working of a maximum demand indicator. **07**

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