

GUJARAT TECHNOLOGICAL UNIVERSITY**B.E. Sem-III Remedial Examination May 2011****Subject code: 130903****Subject Name: Electrical & Electronics Measuring Instruments****Date: 20-05-2011****Time: 10.30 am – 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.

- Q.1** (a) Discuss the absolute measurement of resistance with neat sketch **07**
(b) Define the following terms: **07**
(1) Accuracy (2) precision (3) sensitivity (4) resolution

- Q.2** (a) Discuss the classification of analog instrument **07**
(b) Explain construction and working of DArsonval Galvanometer with neat sketch **07**

OR

- (b) Describe construction and working of PMMC instrument. **07**

- Q.3** (a) Describe the constructional detail of an attraction type moving iron instrument with help of diagram. Derive the equation for deflection if spring control is used. **07**
(b) Describe construction and working of an electrodynamometer type instrument? **07**

OR

- Q.3** (a) Describe the working of duo range potentiometer by neat sketch. Also explain its advantages. **07**
(b) Describe the construction and working of a polar type potentiometer. Also discuss how is it standardized? **07**

- Q.4** (a) Two wattmeters are connected to measure the input to a balanced 3 phase circuit indicate 2000W and 500 W respectively. Find the power factor of the circuit(1) when both the readings are positive (2) when the latter reading is obtained after reversing the connection to the current coil of first instrument **07**
(b) Describe the constructional detail of single phase induction type energy meter **07**

OR

- Q.4** (a) Explain the constructional detail and working of ferro dynamic wattmeter. What are their advantages? **07**
(b) Discuss sources of error in single phase induction type energy meter. **07**

- Q.5** (a) Give short note on extension of range of instrument **07**
(b) Discuss application of D.C. potentiometer **07**

OR

- Q.5** (a) Discuss fully true RMS reading voltmeter **07**
(b) Give brief note on digital tachometer **07**
