

REVISION-2010

Reg. No.....

SUB CODE:3055

Signature.....

THIRD SEMESTER DIPLOMA EXAMINATION IN ELECTRICAL & ELECTRONICS ENGG.

ELECTRICAL MEASUREMENTS & INSTRUMENTATION

Time: 3Hrs.

Max. Marks– 100

PART-A

(Answer all questions in one or two sentences. Each question carries TWO marks.)

Marks

- I
1. List the different mechanism for the production of damping torque.
 2. State the effect of creeping in energy meter?
 3. Write the methods of locating cable fault?
 4. Write any four applications of CRO.
 5. State piezo electric effect?

(2x5=10)

PART-B

(Answer any FIVE questions. Each question carries SIX marks.)

- II
1. What are the various effects of controlling force on measuring instruments?
 2. Explain the general sources of errors in measuring instruments.
 3. Explain the methods of reducing errors due to power factor and friction.
 4. Write briefly the working of clip on meter.
 5. With neat sketch describe the working of Wheatstone bridge for the measurement of medium resistance.
 6. Describe the working of vibrating reed type frequency meter.
 7. Draw the CRT and name each part.

(6x5=30)

PART-C

(Answer *four* full questions. Each question carries 15 marks.)

- III. a. Describe with the help of neat sketch the constructional details and working principle of Moving Iron attraction type instrument. 8
- b. Briefly explain the various methods of damping in indicating instruments. 7

OR

- IV. a. Pointer of a moving coil instrument gives full scale deflection of 20mA. The PD across the meter when carrying 20mA is 400 mV. The instrument is intended to be used on 200A for full scale indication. Find out the shunt resistance required for achieve this. 8
- b. Describe with a neat sketch the working of Rectifier type instrument 7
- V. a. With a neat sketch explain the constructional details and working of a dynamometer type wattmeter. 8
- b. Draw the circuit diagram for the calibration of energy meter by phantom loading at UPF condition. 7

OR

- VI a. Describe the constructional details of single phase induction type energy meter. 8
- b. Draw the diagram of two element type three phase energy meter. 7
- VII a. With a neat sketch explain the working of megger. 8
- b. List the various applications of multimeter 7

OR

- VIII a. With suitable diagram explain the measurement of earth resistance using earth tester. 8
- b. Describe briefly the connection of synchroscope. 7
- IX. a. With the help of a block diagram explain the working of CRO 8
- b. Sketch and explain the Burden tube 7

OR

- X. Write short note on
- a. Strain gauge
- b. LVDT
- c. Diaphragm and Bellows.

(3x5=15)