

TED (15) 4041
(Revision-2015)

N20-02206

Reg.No.....
Signature.....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER-2020

ELECTRONICS INSTRUMENTS AND MEASUREMENTS

[Maximum marks: 75]

(Time: 2.15 Hours)

PART – A

I (Answer any *three* questions in one or two sentences. Each question carries 2 marks)

1. Define the term instrument accuracy
2. List any two applications of CRO
3. Define thermo Pile
4. List any two applications of spectrum analyzer
5. Define closed loop control system

(3 x 2 = 6)

PART – B

II (Answer any *four* of the following questions. Each question carries 6 marks)

1. List the advantages and disadvantages of analog multimeter
2. Explain the conversion of galvanometer into an ammeter
3. Describe different types of CRO probes
4. Explain the working of thermo couple
5. List the advantages of bridge circuit
6. Differentiate between open loop and closed loop control system
7. Describe the role of telemetry in instrumentation system

(4 x 6 = 24)

PART – C

(Answer *any of the three units* from the following. Each full question carries 15 marks)

UNIT –I

III.(a) Draw the block diagram of digital multimeter and explain (9)

(b) Differentiate between moving coil and moving iron instruments (6)

OR

IV. (a) With the help of a neat diagram and explain conversion of a galvanometer a multi range voltmeter (8)

(b) List the specifications of a analog multimeter (7)

UNIT-II

- V. (a) Draw the block diagram of a CRO and explain (9)
(b) Describe the operation of potentiometric transducer (6)

OR

- VI. (a) Draw a neat diagram and explain the working of LVDT (9)
(b) Differentiate between dual beam and dual trace CRO's (6)

UNIT-III

- VII.(a) Explain the principle of impedance measurement by using Hay's bridge (8)
(b) Draw and explain the block diagram of logic analyzer (7)

OR

- VIII. (a) Explain the method for measuring Q values of an RLC series circuit (8)
(b) Explain the inductance measurement method by using Maxwell's bridge (7)

UNIT-IV

- IX. (a) Explain the working of potentiometers type recorders (8)
(b) List the objectives of DAS (7)

OR

- X. (a) Draw the block diagram of digital data acquisition system and explain (9)
(b) Comparison between potentiometer metric and X-Y recorders (6)
