TED (15/19)4041
(Revision – 2015/19)

1503240153

Reg. No……
Signature …….

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER - 2024

ELECTRONICS INSTRUMENTS AND MEASUREMENTS

[Maximum Marks: **100**] [Time: **3** Hours]

PART-A

[Maximum Marks: **10**]

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

1. Define precision of an instrument.
2. Give two examples of dc bridges.
3. List any two types of resistive transducers.
4. State the working principle of a thermocouple.
5. Define a DAS? (5 x 2 = 10)

PART-B

[Maximum Marks: **30**]

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

1. Draw the functional block diagram of CRO.
2. Explain dc voltage measurement by multimeter.
3. Summarize the role of telemetry in instrumentation system.
4. Explain the block diagram of logic analyzer.
5. Explain the principle of impedance of measurement using Maxwell's bridge.
6. Explain the conversion of galvanometer into ammeter.
7. Explain the working of X-Y recorder. (5 x 6 = 30)

PART-C

[Maximum Marks: **60**]

(Answer ***one*** full question from each Unit. Each full question carries **15** marks)

UNIT – I

III. a. With the help of a block diagram explain analog multimeter. (9)

b. Explain the working principle of galvanometer with a diagram. (6)

OR

IV. a. Describe the procedure for measuring dc voltage using multimeter. (9)

b. Describe about 3.5 and 4.5 digit displays. (6)

UNIT – II

V. a. Explain the working principle of LVDT. (7)

b. Differentiate between dual beam and dual trace CRO. (8)

OR

VI. a. Explain the working of digital storage oscilloscope. (8)

b. List the applications of thermocouple. (7)

UNIT- III

VII. a. Explain resistance measurement using Wheatstone bridge. (8)

b. List the applications of spectrum analyzer. (7)

OR

VIII. a. Describe the principle of frequency measurement using Wein Bridge. (8)

b. List the applications of logic analyzer. (7)

UNIT - IV

IX. a. Explain the block diagram of digital DAS. (8)

b. Describe the working principle of strip chart recorder with block diagram. (7)

OR

X. a. Explain the block diagram of analog DAS. (9)

b. Describe the working principle of potentiometer type recorder. (6)

****