TED (15/19) - 4041
(REVISION-2015/19)

A22-02879

Reg.No……
Signature…….

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, APRIL- 2022

ELECTRONIC INSTRUMENTS AND MEASUREMENTS

(Maximum Marks:100) (Time: 3 Hours)

PART - A
(Maximum marks : 10)

Marks

I. Answer all the questions in one or two sentences. Each question carries 2 marks.

1. Define instrument accuracy.
2. What is the deflection sensitivity of CRO.
3. List any two applications of spectrum analyzer.
4. What are the two categories of DAS.
5. Describe the actuator. (5 x 2 = 10)

PART - B
(Maximum Marks: 30)

II Answer ***any five*** questions from the following. Each question carries 6 marks.

1. Differentiate between moving coil and moving iron instruments.
2. Explain how Galvanometer is converted into a voltmeter.
3. Draw the functional block diagram of CRO.
4. Describe the principle of thermocouple.
5. Explain the block diagram of logic analyzer.
6. Describe the basic instrumentation system.
7. Differentiate open loop and closed loop control systems. (5 x 6 = 30)

PART – C
(Maximum marks: 60)
(Answer ***one full*** question from each unit. Each full question carries 15 marks.)

UNIT - 1

III (a) Illustrate the working principle of PMMC galvanometer. (6)

(b) With the block diagram explain the digital multimeter. (9)

OR

IV (a) Using the circuit diagram explain the DC voltmeter section of multimeter. (7)

(b) Explain the block diagram of digital frequency meter. (8)

UNIT – 2

V (a) With neat sketch explain the working principle of CRT (8)

(b) Describe the working of unbounded strain gauge. (7)

OR

VI (a) Explain the working of digital storage oscilloscope. (7)

(b) Illustrate the working principle of LVDT . (8)

UNIT – 3

VII (a) Explain the method of measuring frequency using wien bridge. (6)

(b) Draw the block diagram function generator and explain each block. (9)

OR

VIII (a) How the Schering's bridge is used to for impedance measurement. (6)

(b) Explain the principle of Q-meter. (9)

UNIT – 4

IX (a) Explain the working of X-Y recorder. (8)

(b) With the block diagram explain the analog DAS (7)

OR

X (a) Explain the working principle of potentiometer type recorder. . (8)

(b) Describe the role of telemetry in instrumentation system. (7)

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