

TED (15/19)-3213
(Revision-2015/19)

N21-09736

Reg.No.....
Signature.

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE –NOVEMBER -2021.

ELECTRICAL AND ELECTRONIC INSTRUMENTS

(Maximum Marks : 75)

[Time : 2.15 hours]

PART-A

Marks

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

1. What are the applications of CRO
2. List any two advantages of Dynamometer type Wattmeter.
3. Give the basic principle of D'Arsonval movement.
4. Compare PMMC, MI & ED type instruments.
5. What is a recorder? How they are classified?

(3x2=6)

PART - B

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

1. Explain the working of Sampling Oscilloscope.
2. Compare attraction and repulsion type of moving iron instruments.
3. Explain X-Y recorder.
4. Illustrate the resistance measurement using Maxwell's bridge.
5. List the specification of a multimeter.
6. List the advantages and disadvantages of PMMC.
7. Describe the operation of a capacitance Schering's bridge.

(4x6 =24)

PART - C

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

UNIT I

- III** (a) Explain the construction and working of PMMC. (7)
(b) Explain the method of increasing the range of ammeter and voltmeter. (8)

OR

- IV** (a) Explain shunt and multipliers in ammeter and dc voltmeter circuit. (7)
(b) With a neat sketch explain the construction and working of MI Instruments. (8)

UNIT- II

- V** (a) Explain construction and working of Single phase induction type Energy meter. (7)
(b) Explain the resistance measurement using Wheat stone's bridge. (8)

OR

- VI** (a) Explain the measurement of impedance using Hay's bridge. (7)
(b) Explain the construction and working of Dynamometer type Wattmeter. (8)

UNIT- III

- VII** (a) Compare Dual trace and dual beam Cathode ray Oscilloscope. (7)
(b) Explain the principle and working of Sampling Oscilloscope. (8)

OR

- VIII** (a) Draw and explain Electrostatic focusing and electrostatic deflection. (7)
(b) With the help of a block diagram explain the principle of operation of CRO (8)

UNIT – IV

- IX** (a) Explain a Circular Chart Data recorder with suitable diagram. (8)
(b) Explain the digital multimeter with block diagram. (7)

OR

- X** (a) Explain a potentiometric recorder with a neat diagram. (7)
(b) Explain the principle and working of Ramp Type DVM. (8)
