



FOURTH SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/  
TECHNOLOGY — MARCH, 2016

ELECTRONIC INSTRUMENTS AND MEASUREMENTS

(Common for BM, EC, EL and EP)

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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

1. Define accuracy and resolution.
2. List any two specifications of an analog multimeter.
3. Define deflection sensitivity of a CRO.
4. Give any two applications of logic analyzer.
5. Define line regulation.

(5×2 = 10)

PART— B

(Maximum marks : 30)

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

1. Draw the block diagram of Ramp type digital voltmeter.
2. Give the procedure to measure voltage and frequency using CRO.
3. Compare open loop and closed loop control systems.
4. Explain IEEE 488 standard.
5. Explain the working of X-Y recorder.
6. Explain Telemetry in instrumentation.
7. With a block diagram, explain the working of Digital Frequency Meter.

(5×6 = 30)



PART— C

(Maximum marks : 60)

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

UNIT – I

- III (a) Explain how a galvanometer can be converted into  
(i) Voltmeter (ii) Ammeter 8  
(b) With the help of a block diagram, explain the working of Digital Multimeter. 7

OR

- IV (a) With the help of a diagram, explain the working of Analog Multimeter. 8  
(b) Compare between moving coil and moving iron instruments. 7

UNIT – II

- V (a) With the help of a block diagram, explain the working of a CRO. 7  
(b) Explain variable capacitance type transducers. 8

OR

- VI (a) Explain the working of ELD. 8  
(b) Explain the working of Dual Trace Oscilloscope. 7

UNIT – III

- VII (a) With the help of a block diagram, explain the working of a signal generator. 8  
(b) Explain the principle of Q meter. 7

OR

- VIII (a) Explain the resistance measurement using Wheatstone bridge. 7  
(b) With the help of a block diagram, explain the working of a swept frequency type spectrum analyzer. 8

UNIT – IV

- IX (a) Explain the working of Galvanometric recorders. 7  
(b) With the help of a block diagram, explain the working of a power supply. 8

OR

- X (a) Explain the working of potentiometer type recorders. 7  
(b) With the help of a block diagram, explain the working of Computer Supervisory Control (CSC). 8