22331

24225

3 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answer with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following: **10**

a) Define error. List types of error.

b) List any two features of PMMC meter.

c) Define accuracy and sensitivity of digital instruments.

d) List applications of Cathode Ray Oscilloscope. (Any two points)

e) State the need of Signal Generator.

f) Give classification AC and DC bridges.

g) List uses of schering bridge.

Marks

2. Attempt any THREE of the following: **12**

a) List static and dynamic characteristics of instruments and explain them in short. (Any two points)

b) Draw block diagram of LCR-Q meter and describe its operation.

c) Draw and explain series type Ohm meter.

d) Draw and explain working of Maxwell bridge?

3. Attempt any THREE of the following: **12**

a) Draw PMMC meter as an ammeter and explain role of shunt resistor in it.

b) Draw block diagram of digital storage Oscilloscope and list it's applications.

c) Draw and explain Dual slope digital voltmeter.

d) Sketch the diagram of wheat stone bridge. Write procedure for measurement of unknown resistance.

4. Attempt any THREE of the following: **12**

a) Convert PMMC movement into DC voltmeter of the range 0 to 100 mv.

b) Compare between analog instruments and digital instrument. (Any four points)

c) Draw block diagram of digital frequency meter.

d) Draw and explain structure of Cathode Ray Tube.

e) Describe working of Hay Bridge for measurement of inductance.

5. Attempt any TWO of the following: **12**

a) Define calibration. State the need of calibration. Explain calibration procedure in short.

b) Draw block diagram of Cathode Ray Oscilloscope. Explain function of each block.

c) Draw block diagram of Logic analyser and explain its operation. Also give any two applications of it.

Marks

6. Attempt any TWO of the following: **12**

a) Draw multirange DC voltmeter and explain loading effect with respect to DC voltmeter.

b) Draw and explain successive approximation type DVM. List its any two applications.

c) Draw block diagram of function generator and explain its working. List any two specifications of it.