Electronic Instruments & Measurements.

(3 Hours)

Total : 80

N.B. 1) Question **No.1** is **compulsory**.
2) Answer **any three** questions from remaining.

1) Attempt **any four**
a) Define transducer. List different types of transducers. 5
b) Draw Schering Bridge and list applications. 5
c) Draw a neat labeled McLeod Gauge system diagram 5
d) Explain measuring principle of 'Q' meter and list applications 5
e) Explain level measurement using differential pressure technique 5

2) a) Explain in detail different types of errors in measurement system 10
b) Explain FET type electronic voltmeter with neat circuit diagram. 10

3) a) Discuss static and dynamic characteristics of instruments with importance of each parameter under consideration. 10
b) Explain in detail Dead Weight Testing with neat labelled diagram 10

4) a) Explain LVDT with neat labeled diagram. 10
b) Draw and explain Kelvin's Double Bridge for unknown resistance measurement 10

5) a) Explain single channel and multichannel data acquisition system with neat labeled separate block diagrams. 10
b) Draw block diagram of CRO. and DSO. List important features and applications of DSO. 10

6) Short note on **(any four)** 20
a) Selection criteria of transducers
b) Strain Gauges
c) Turbine flow meter
d) Thermocouples
e) Megohm bridge for high resistance measurement