

3. : (1) Question No. 1 is **Compulsory**.
(2) Attempt any **four** questions out of remaining **six** questions.
(3) Figures to the **right** indicate **full** marks.

- (a) Explain about FET voltmeter. 20
(b) Explain the factors which are to be considered while selecting an analog electronic voltmeter.
(c) Explain in brief sampling oscilloscope.
(d) The requirements of a laboratory type signal generator.
2. (a) With neat block diagram, explain Dual Slope Type Voltmeter and add a note on Resolution and Sensitivity of digital voltmeter. 10
(b) Explain the response of first order system for step and ramp inputs. 10
3. (a) What are Lissajous Patterns ? Explain how it can be used for measurement of frequency and phase using suitable diagrams. 10
(b) Explain the following terms related to C.R.O. :— 10
(i) Focus and Intensity Control
(ii) Post Deflection Acceleration
(iii) Delay Time Base
(iv) Time/Div and Volts/Div
(v) Alt and Chop Mode.
4. (a) Explain with neat diagram, the working of Digital Phase Meter. 10
(b) Explain the following :— 10
(i) Non-fade Display System
(ii) Touch Screen Display System.
5. (a) Explain the working of A.F. signal generator with the help of block diagram. 10
(b) With neat diagram, explain the working of an analog electronic frequency meter. 10
State the limitations.
6. (a) Discuss in brief, the principle of working of Peak Responding, Average Responding and True RMS Responding Electronic Voltmeter. 10
(b) Define the sensitivity of a multimeter. Draw the block diagram of a simple multimeter and explain its operation. 10
7. Write short notes on any three :— 20
(a) Data Acquisition System
(b) Advantages of Electronic Voltmeter over conventional type analog
(c) R-2-R Ladder Network
(d) Instrumentation Tape Recorders
(e) Storage C.R.O.
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