

(3 Hours)

[Total Marks : 100

MASTER

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

1. Solve any 'four' of the following :-

- (a) Define Resolution and Sensitivity of digital meter. What is the resolution of a 3½ digit display on 1V and 10V ranges ? 5
- (b) What is delayed sweep ? When is it used ? 5
- (c) What are the requirements for a good laboratory type signal generator. 5
- (d) Write classification of transducers. Give an example of each type. 5
- (e) Why is a delay line used in the vertical section of oscilloscope. 5

- 2. (a) What is the working principle of successive type digital voltmeter ? Draw Block diagram and explain. 12
- (b) Explain True RMS responding voltmeter. 8

- 3. (a) What is the working principle of a digital frequency meter ? Draw Block diagram and explain. 12
- (b) Explain digital phase measurement technique using flip-flop. 8

- 4. (a) Explain front panel control on a CRO. 10
- (b) Explain storage oscilloscope. 10

- 5. (a) Explain generalized block diagram of Instrumentation measurement system. 10
- (b) List Temperature Transducers. Hence explain any two temperature transducers. 10

- 6. (a) Explain multichannel data acquisition system. 10
- (b) Explain zeroth, first and second order instrument responses. Give example of each. 10

- 7. Write short notes on any two : 20
 - (a) Function Generator
 - (b) Piezoelectric Transducers
 - (c) Analog frequency meter
 - (d) LVDT (Linear Variable Differential Transformer).
