S.E.(Biomedical)(Sem-IV) May, 2011

Electronic Instruments 13/6/11

9 : 1st half.11-AM(m)

Con. 3019-11. **RK-1905**

(3 Hours) **[Total Marks : 100**

AE

N.B. : (1) Question No. **1** is **compulsory**. Attempt any **four** from remaining **six** questions.
(2) **Illustrate** your answers with **block** diagrams and **circuit** diagrams.

1. (a) Explain the terms Threshold and Resolution. **5**
   (b) How are Lissojous patterns used for phase and frequency measurements. **5**
   (c) What are the factors involved in selection of a voltmeter ? **5**
   (d) Describe briefly the Non-fade display system. **5**

2. (a) Explain in detail working of True RMS responding voltmeter. **10**
   (b) Find the response of first order system to step input. **10**

3. (a) Describe the working of dual slope integrating type Digital Voltmeter. **10**
   (b) Explain in detail the working of a digital Multimeter. **10**

4. (a) Describe the working of inverted R-2R Ladder digital to Analog convertor. **10**
   (b) Describe in detail the working of Analog phase meter. **10**

5. (a) What is Period measurement and Ratio measurement in a digital Frequency meter. **10**
   (b) Explain the function of delay line and trigger circuit in a cathod Ray Oscilloscope. **10**

6. (a) Explain in detail a Sampling CRO. **10**
   (b) Explain the working of a Function Generator. **10**

7. Write short notes on any **three** of the following :— **20**
   (a) Effect of Zeta (ξ) on Second Order System
   (b) Touch Screen Display System
   (c) Data Acquisition System
   (d) Intensity Modulation in a CRO.
