

III B.Tech I Semester Supplementary Examinations, May 2005
ELECTRONICS MEASUREMENTS AND INSTRUMENTATION
(Electronics & Communication Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Classify errors and explain them.
(b) Suggests methods to minimize and eliminate errors.
2. Draw the block schematic of a frequency counter set for period measurement and explain how period is measured.
3. Calculate the range of standard resistance in a Wheatstone bridge if
 - (a) the unknown resistance is in the range of 1-150 kohm and the other two arms have each 15 kohm .
 - (b) the unknown resistance is 15 kohm and arm opposite to the standard resistor is 2 kohm and the other arm has a range of 1 -18 kohm .
 - (c) Explain the use of Thevenin's theorem in the analysis of Wheatstone bridge.
4. (a) Explain various methods of measuring the impedance of a circuit using Q-meter
(b) Explain the working principle of a Q meter.
5. (a) Draw the neat sketch of triggered sweep circuit and explain it. Draw the trigger pulse and sweep waveforms.
(b) Draw the block diagram of a dual beam oscilloscope and explain its working.
6. (a) Explain the Digital data recording technique.
(b) Explain the tracking generator counter applications.
7. (a) How will you measure the fluid velocity using ultrasonic flow meters?
(b) What are the precautions to be taken while measuring with the same?
(c) What are the properties of piezo electric crystals.
8. (a) Show with an example, how the capacitive transducer has excellent frequency response?
(b) Explain how a thermocouple is used in a potentiometer for temperature measurement?
