Code No: RR212205 **RR**

II B.Tech I Semester(RR) Supplementary Examinations, May/June 2010
ELECTRICAL AND ELECTRONICS MEASUREMENTS
(Instrumentation & Control Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) Explain Tant-band suspension. [6]
   (b) Draw the schematic, including values for an Ayrton shunt for a meter movement having full- scale deflection of 1mA and an internal resistance of 500Ω to cover the current ranges of 10, 50, 100 and 500mA. [5+5]
2. (a) Explain in detail the measurement of power using electrodynamometer.
   (b) Write short notes on watt-hour meter. [8+8]
3. Draw the block diagram of a dual-slope digital volt meter and explain how it is advantageous to use dual slope A/D converter in DUM? [4+8+4]
4. (a) Write notes on RF power and voltage measurement.
   (b) Compare R.F. analog and digital powers measurements. [10+6]
5. (a) With neat circuit diagram, explain the function of associated circuits that are used for CRT operation.
   (b) Explain how the light is emitted on the screen of a CRO. [10+6]
6. (a) What are the major blocks of an oscilloscope and what are the functions of each?
   (b) What is the velocity of electrons that have been accelerated through a potential of 2200 volts? [10+6]
7. (a) Explain the term Capability of a 'phase lock' connected with function generator.
   (b) Explain briefly about various types of signal generators.
   (c) What is the necessity to have TTL output on a signal generator and a frequency counter?[4+8+4]
8. (a) Explain the basic principle and working of an electronic frequency counter. Also explain how period can be measured.
   (b) List the detailed specifications of electronic frequency counters. [10+6]

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