

EX - 604
B.E. VI Semester
Examination, June 2014
Electronic Instrumentation
Time : Three Hours

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Maximum Marks : 70

Note: Attempt any two parts from each unit. All questions carry equal marks.

Unit - I

1. a) Explain in brief the principle of a single beam CRO.
- b) What is bolometer? Explain. Discuss any one application of bolometer in detail.
- c) With neat block diagram, explain the working of chopper type voltmeter. Also give its applications.

Unit - II

2. a) A Maxwell bridge is used to measure an inductive impedance. The bridge constants at balance are $C_1 = 0.01 \mu\text{f}$, $R_1 = 470 \text{ k}\Omega$, $R_2 = 5.1 \text{ k}\Omega$ and $R_3 = 100 \text{ k}\Omega$. Find the series equivalent of the unknown impedance.
- b) Describe the working of capacitive transducer. Also discuss its advantages and disadvantages.
- c) Explain the working of piezoelectric transducers.

3. a) Describe an Heterodyne wave analyzer with the help of its block diagram.
- b) Describe the working at a sweep frequency generator. What are the sweeper errors?
- c) Explain function and working of function generator with the help of neat block diagram.

Unit - IV

4. a) What are the various methods of analog recording of the signal? If the frequency of a signal to be recorded with a strip chart recorder is 20 Hz, what must be the chart speed used to record one complete cycle on 5mm of recording paper?
- b) Explain the principle and working of ramp type digital voltmeter.
- c) What are the operating principles of LCD displays? What are the advantages of LCD display over Nixie tube and LED display?

Unit - V

5. a) Explain the network analyzer with block diagram. Describe the measurements with scalar network analyzer.
- b) Explain with pin diagram RS 232C.
- c) Describe the measurement of scattering parameters with neat block diagram.