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(P.T.) B.E. DEGREE END SEMESTER EXAMINATIONS, April /May 2014

**Electronics and Communication Engineering**

**Seventh Semester**

**PTEC 9306 Measurement and Instrumentation**

Time: 3 hr

Max. Marks: 100

Answer ALL Questions

**Part – A ( 10 x 2 = 20 Marks )**

1. Define Resolution
2. What is the difference between a primary and secondary standard?
3. Compare Photodiodes and Phototransistor.
4. Mention the advantages of capacitive transducer.
5. What is the resolution of a 4 ½ digit display?
6. What is the use of Logic analyzer?
7. State the advantages of Digital Instruments.
8. What is IEEE 488 buses?
9. How the phase angle is measured with the use of CRO?
10. Compare the Strip chart recorder and X-Y recorder.

**Part – B ( 5 x 16 = 80 Marks )**

11. (i) Draw the Schering bridge and derive the equation for balance condition used for the measurement of unknown capacitance, power factor and dissipation factor. (10)
- (ii) Discuss the different types of isolation amplifiers used in measurement systems. (6)
12. (a) Explain the Construction, principle, characteristics and applications of LVDT. (16)

(OR)

12. (b). Explain the following
- (i) Photo Conductive transducer (8)
- (ii) Piezo electric transducers (8)

13. (a). (i) Discuss the significance of following characteristics.
- (1) Linearity (2) Sensitivity (8)
- (ii) Discuss about the systematic errors. (8)

(OR)

13. (b) (i) Explain the dynamic characteristics of measurement system. (10)
- (ii) Discuss how random errors are rectified. (6)

14. (a) Explain the following
- (i) Data loggers (ii) Frequency counters (16)

(OR)

- 14.(b) With the neat block diagram Explain principle of Ramp type Digital voltmeter. (16)

- 15.(a) Draw the Block diagram and architecture of VI and explain. (16)

(OR)

- 15.(b) With neat diagram Explain the function of Digital Storage oscilloscope. (16)