

15659

Name:

Reg. No.

FOURTH SEMESTER B.TECH. DEGREE EXAMINATION, JUNE 2011

AI.09.406 – Electronic Instrumentation and Measurements

Duration : 3 Hrs

Max. Marks : 70

Part A (5 x 2 = 10 Marks)

1. Define calibration.
2. State the difference between accuracy and precision.
3. What is a unit? Name the various types of units.
4. What is an Integral Non linearity error?
5. What is a Q meter? Give any one of its application.

Part B (4 x 5 Marks= 20 Marks)

6. Write a note on Analog and digital modes of an instrument.
7. What is curve fitting? Explain.
8. Briefly explain the primary and working standards.
9. Explain the operation of a R-2R Ladder type DACs.
10. What is the principle of operation of a LCD? Explain.
11. What is a RMS value? How it is measured using True RMS meter? Explain.

Part C (4 x 10 Marks = 40 Marks)

12. With block diagram, explain the generalized configuration of an Instrument.

(or)

13. With neat sketch explain the following type of Instruments

- (i) Null type
- (ii) Deflection type

14. Discuss the first and second order instrument performance and their response to standard test signals.

(or)

15. (i) How the system parameters are measured? Explain
(ii) With block diagram, explain the function of a Digital Instrument.

16. Explain the operation of a
- (i) Flash type ADC
 - (ii) Integrating type ADC

(or)

17. Discuss the operation of a
- (i) Bipolar DAC
 - (ii) Master-slave DAC.

18. With block diagram, explain the operation of a CRO and derive an expression for its deflection sensitivity.

(or)

19. With block diagram, explain the operation of a spectrum analyzer and its applications.