

Code No. 3591

FACULTY OF SCIENCE
M.Sc. III - Semester Examination, December 2014

Subject: Electronics
Paper – V: Electronic Instrumentation

Time : 3 hours

Max. Marks : 80

Note: Answer all questions from Part - A and Part - B.
Each question carries 4 marks in Part - A and 12 marks in Part - B.

PART – A (8 x 4 = 32 Marks)
(Short Answer Type)

- 1 Explain briefly the terms Accuracy and Precision of a system.
- 2 What are the specifications of dynamic response?
- 3 Explain the frequency response of a first order butter worth low pass filter.
- 4 Briefly explain the working of phase sensitive detector.
- 5 Using a block diagram explain the working of sweep frequency generator.
- 6 Draw the spectra of AM, FM and CW waves.
- 7 Describe briefly the principle of operation of a Digital Voltmeter.
- 8 Distinguish between Inkjet printers and Laser printers.

PART – B (4 x 12 = 48 Marks)
(Essay Answer Type)

- 9 a) Distinguish between zero, first and second order systems and describe the response of a second order system for step input.
 OR
 b) Explain the types of errors and discuss in detail the method of estimating probability of errors.
- 10 a) Draw the circuit diagram and explain the operation of voltage to frequency converter and explain its merits and demerits.
 OR
 b) Describe with a block diagram the principle and operation of a phase locked loop (PLL) amplifier and mention its advantages.
- 11 a) What is harmonic distortion? Define total harmonic distortion.
 b) Explain the working of heterodyne harmonic distortion analyzer.
 OR
 c) Explain the construction and operation of frequency divider generator with circuit diagram and mention its applications.
- 12 a) Define Q-factor and explain the construction and working of a Q-meter.
 OR
 b) Describe the working function of i) phase meter and ii) LCD
 c) Explain the working of Magnetic tape recorders.
