10 EC 311 ELECTRONICS ENGINEERING (S.I.UNITS)

III B.Tech I Semester

(with effect from the academic year 2012-2013)

Credits: 4

Lectures/Week: 4 Hrs *Sessional Marks: 40*

University Exam:3 Hrs *End Examination Marks: 60*

UNIT-I

Electronic Devices and Rectifiers: Energy band theory of insulators, semiconductors and metals, Characteristics of P.N.junction diode. Zener diode. Rectifiers: Half Wave, Full Wave and Bridge rectifiers with and with out filters (analysis not required) characteristics of SCR.

UNIT-II

Transistor Characteristics: Transistor current components, Transistor as an amplifier, Transistor in CB, CE and CC Configuration. Transistor biasing, Characteristics of JFET.

UNIT-III

Oscillators: Barkhansen Criterion, R-C phase shift oscillator, Wein bridge oscillator, General form of Oscillator circuit, Hartley and Colpitts Oscillator (Transistor based).

UNIT-IV

Electronic Instrumentation: Electronic multimeters, Digital voltmeters, integrating DVM, Successive approximation type DVM, Block diagram and principle of operation of CRO.

UNIT-V

Basic Micro computer organization: Address, data and control buses, Stack and subroutines. Intel 8085 Micro Processor. Internal Architecture, Pin configuration, Addressing Modes, Instruction set and simple assembly language programming (8085).

TEXT BOOKS:

1. Integrated Electronics : Millman & Halkias,
2. Electronic Instrumentation and Measurement Techniques : W.D.Cooper and A.D.Helfrick, 3rd edition
3. Fundamentals of Micro processors and Micro Computers : Ram.B, Dhanpat Rai and sons, 1995