

BASIC ELECTRONICS

Subject Code	19EC17/27	CIE	50
No. of Hours/Week	4	SEE	50
Total No. of Lecture Hours	42	SEE Hours	03
CREDITS : 4			
Modules		Teaching Hours	Revised Bloom's Taxonomy Level
Module -1			
Conduction of Electricity: Insulator, conductor, semiconductor their property, conduction through semiconductor, types of semiconductor : intrinsic, p, n. P-N junction: Characteristic of PN junction Forward and Reverse bias, load line. Application of Diode, rectifiers, filter, zener regulator.		9 Hours	L1, L2,L3
Module -2			
Transistor types: Input output characteristics, dc load-line and biasing (voltage divider biasing) ,CB ,CC,CE configuration , transistor as an amplifier, transistor as a switch, concept of feedback, oscillator, Hartley, crystal oscillator, RC phase shift oscillator.		9 Hours	L1, L2,L3
Module -3			
Ideal op-amp characteristics, application of op-amp, inverting, non inverting, summing amplifier, difference amplifier, Differentiator, integrator.		8 Hours	L1, L2,L3
Module -4			
Number system: Number representation, Sign magnitude representation, representation of negative numbers. Binary addition and subtraction using 2's complement. Logics gates: Basic gates , universal and Ex-OR, Ex-NOR gates.		8 Hours	L1,L2,L3
Module -5			
Introduction to Microprocessor, memory and their types, CPU, I/O Buses, Introduction to 8085, architecture, instruction set and addressing modes.		8 Hours	L1, L2,L3
Course outcomes: After studying this course, students will be able to: CO1 Analyze conductivity in semiconductor and diode applications. CO2 Analyze transistor operation and its applications. CO3 Analyze Operational amplifier operation and its applications. CO4 Perform arithmetic and logic operations. CO5 Analyze working of microprocessor of 8085.			
Question paper pattern: The question paper will have ten questions. Each full question consists of 20marks. There will be 2 full questions (with a maximum of four sub questions) from each module. Each full question will have sub questions covering all the topics under a module. The students will have to answer 5 full questions, selecting one full question from each module.			
Reference Books: 1. Electronic devices and circuit theory by R L Boylestad, Louis Nashelsky 6TH edition PHI. 2. Fundamentals of microprocessors and microcontrollers by B RAM. 3. Digital logic and computer design by M Moris Mano.			