

Course Code: EITS 201		
Course Title: Digital Electronics- I		
Number of Credits: 03	Total Hours: 42	Total Marks: 75
Prerequisites for the course		
Should have studied basic level electronic subjects. It is assumed that students have a working knowledge of passive, active components and basics of Boolean algebra.		
Objectives of Course		
This subject will introduce the basics of digital electronics. Student will be introduced to the different gates, Boolean algebra and logic families.		
Course Content		
Unit I	Transistors and multivibrator	6 Hours
Transistor multivibrators, types of multivibrators, construction and working of FET		
Unit II	Logic gates	4 Hours
Basic logic gates, OR, AND, NOR, NAND, and EX-OR gates, NAND and NOR gates as universal building blocks in logic circuits,		
Unit III	Digital fundamentals	12 Hours
De Morgan's Law's, Boolean Algebra, Sum of Products methods and Product of Sum methods, Minterms and Maxterms, Karnaugh map Minimization.		
Unit IV	Combinational circuits	10 Hours
Half adder and Full adder, Multiplexer and Demultiplexer, Encoders and decoders.		
Unit V	Logic families	10 Hours
TTL Standard, TTL NAND, ECL, MOS gates and CMOS gates, propagation delay, power dissipation, fan-out and fan-in, noise margin.		
Pedagogy		
Lectures/Tutorial/Assignments/		
Course Outcome		
On completion of the course, students will be able to understand the basic electronics components such as FET, multivibrator, combinational circuits. Students will gain knowledge of basics of digital electronics and number system.		
References/Readings		
1. Digital Principles and Applications: Malvino and Leach TMH 4th edition 1986. 2. Electronics Devices and Circuits An Introduction: Allen Mottershed PHI 1997 3. Integrated Electronics: Millman and Halkias TMH 1972 4. Electronic Devices and Circuits: Millman and Halkais Mc Graw Hill 1967 5. Modern Digital Electronics: R. P. Jain TMH 3rd edition 2003. 6. Principles of Electronics: V.K.Metha, S.Chand& Company 8th edition 2003		