Module No.	Unit No.	Details of Topic	Hrs.
1.0		**Number Systems and Codes:**	(02)
	1.1 1.2 1.3	Revision of Binary, Octal, Decimal and Hexadecimal number Systems and their conversion, Binary Addition and Subtraction (1's and 2's complement method) Gray Code, BCD Code, Excess-3 code, ASCII Code,& Error Detection & Correction Codes,N-radix arithmetic operations	
2.0		**Basic Digital Circuits & Minimization:**	(08)
	2.1 2.2 2.3 2.4 2.5	NOT,AND,OR,NAND,NOR,EX-OR,EX-NOR Gates Solving problems using theorems and properties of Boolean Algebra, Standard SOP and POS form, Reduction of Boolean functions using Algebric method, K -map method (2,3,4 Variable) Quine-McClusky Method, NAND-NOR Realization.	
3.0		**Combinational Logic Design:**	(08)
	3.1 3.2 3.3 3.4	Half and Full Adder, Half and Full Subtractor, Four Bit Binary Adder, one digit BCD Adder, Four Bit Binary Subtractor (1's and 2's compliment method) Code conversion Multiplexers and Demultiplexers, Decoders One bit,Two bit ,4-bit Magnitude Comparator	
4.0		**Sequential Logic Design**	(08)
	4.1 4.2 4.3	Flip Flops:SR, D, JK, JK Master Slave and T Flip Flop, Truth Tables and Excitation Tables,Flip-flop conversion. Counters: Design of Asynchronous and Synchronous Counters, Modulo Counters, UP- DOWN counter, Ring and Johnson Counter. Shift Registers: SISO, SIPO,PIPO,PISO, Bidirectional Shift Register, Universal Shift Register	
		Total	**(26)**

Text Books

1. "Modern Digital Electronics", R. P. Jain, Tata McGraw Hill.
2. "VHDL Primer", J. Bhasker, Pearson Education
3. "Digital Logic and computer Design", M. Morris Mano, PHI.
4. "Digital Logic Applications and Design ",Yarbrough John M ,Cengage Learning
5. "VHDL Programming by Example", Douglas L. Perry, Tata McGraw Hill.
6. "Digital principles and Applications", Donald p Leach, Albert Paul Malvino, TataMcGraw Hill.