GUJARAT TECHNOLOGICAL UNIVERSITY

CAD of Digital System
SUBJECT CODE: 3716106

Type of course: Elective

Prerequisite: NA

Rationale:

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P	C	Theory Marks		Practical Marks		
				ESE(E)	PA (M)	PA (V)	PA (I)	
3	0	2	4	70	30	30	20	150

Content:

Sr. No.	Content	Total Hrs	% Weightage
1	Introduction to VLSI Methodologies – Design and Fabrication of VLSI Devices, Fabrication Process and its impact on Design.		
2	VLSI design automation tools – Data structures and basicalgorithms, graph theory and computational complexity, tractable and intractable problems		
3	General purpose methods for combinational optimization – partitioning, floor planning andpin assignment, placement , routing		
4	Simulation – logic synthesis, verification, high level Synthesis.		
5	MCMS-VHDL-Verilog-implementation of simple circuits using VHDL		

Reference Books:

1. N.A. Sherwani, “Algorithms for VLSI Physical Design Automation3
2. S.H. Gerez, “Algorithms for VLSI Design Automation

Course Outcome:

After learning the course the students should be able to:

1. Fundamentals of CAD tools for modelling, design, test and verification of VLSI systems
2. Study of various phases of CAD, including simulation, physical design, test and verification
3. Demonstrate knowledge of computational algorithms and tools for CAD