Second Year – 2015 Course			
Course Code	**Course Name**	**Course Outcomes**	
Semester – I			
214450/56	**Computer Graphics and Computer Graphics Laboratory**	CO1	Understand mathematics and logic to develop Computer programs for elementary graphic operations
		CO2	Implement scientific and strategic approach to solve complex problems in the domain of Computer Graphics
		CO3	Develop the competency to understand the concepts related to 3D Transformations and Projections
		CO4	Implement the concepts related to Segments Windowing and Clipping
		CO5	Compare concepts related to Computer Vision and Virtual reality
		CO6	Demonstrate the logic to develop animation and gaming programs
		CO7	Apply and implement 2D and 3D transformation algorithm for generating simple animation without using any animation tool
214444/47	**Fundamentals of Data Structures and Programming Laboratory**	CO1	Students will be able to Understand fundamental concepts and structure of C- programming language.
		CO2	Understand concepts of C language like pointers and files.
		CO3	Understand the concepts of data structure, data type and array data structure.
		CO4	Analyze algorithms and determine their time complexity.

		CO5	Know how and when to apply standard algorithms for searching and sorting along with their performance.
		CO6	Implement linear data structures and its applications like polynomial, sparse Matrix etc.
		CO7	**Implement** program in C for basic operations in discrete mathematics, searching, sorting and file handling.
214443/46	**DELD &DL**	CO1	Apply knowledge of number systems, codes, Boolean algebra and use necessary A.C, D.C Loading characteristics as well as functioning while designing with logic gates.
		CO2	Use logic function representation for simplification with K-Maps and analyse as well as design Combinational logic circuits using SSI & MSI chips.
		CO3	Analyze Sequential circuits like Flip-Flops (Truth Table, Excitation table), their conversion & design the applications.
		CO4	Analyze Sequential logic design circuit like Registers , Ring Counter, Twisted Ring Counter and Mealy and Moore machines(Representation and Implementation).
		CO5	Identify the Digital Circuits, Input/Outputs to replace by FPGA.
		CO6	Use VHDL programming technique with different modeling styles for any digital circuits.
		CO7	Use logic function representation for simplification with K-Maps and analyze as well as design Combinational logic circuit , Sequential Circuits and implement the design Steps, main programming technique with different modeling styles for any digital circuits with VHDL Programming , follow ethical standards and teamwork.

214452/55	Data Structures and Files(DSF) & DSF-Lab	CO1	Analyse stack and queue data structures with implementation and applications
		CO2	Understand tree as abstract data type (ADT) and its implementation.
		CO3	Solve graph based problems for Spanning Trees, Shortest path, transitive closure and topological sorting.
		CO4	Understand symbol tables and hash tables with their applications
		CO5	Discuss threaded binary trees, AVL trees, red- black trees, B trees, B+ trees, Splay trees
		CO6	Develop sequential, direct access and indexed file sequential file based programs
		CO7	Develop programs in C++ to implement learned algorithm design techniques, data structures and their applications following ethical standards and teamwork
214441/47	Discrete Structures And Programming Laboratory	CO1	Understand the ideas of Permutations, Combinations & Discrete Probability.
		CO2	Use Set, Mathematical Propositions and Proof Techniques to determine logical possibilities in a given situation.
		CO3	Demonstrate an understanding of relations and functions and be able to determine their properties
		CO4	Use Graph theory to formulate the problems and solve them
		CO5	Use trees to formulate the problems and solve them
		CO6	Discuss the ideas of Groups & Rings
		CO7	Design & implement C programs to learn basic mathematical operations on set & data structures.
214451/54	Processor Architecture And Interfacing Processor	CO1	Memorize architectural details of 80386 microprocessor
		CO2	Interpret memory management of

			80386 microprocessor
	Interfacing Laboratory	CO3	Examine multitasking of 80386 microprocessor
		CO4	Analyze architecture and memory organization of 8051microcontroller
		CO5	Evaluate timers and interrupts of 8051 microcontroller
		CO6	Design interfacing with I/O devices
		CO7	Student will be develop the assembly language programsand interfacing with input output devices to 8051 microcontroller though ethics and team work
214445/48	**PSOOP (TH) and OOPL(PR)**	CO1	Analyze and organize the concept related to problem solving in OOP.
		CO2	Develop logic for solving different problems in OOPs.
		CO3	Describe the procedural and object oriented paradigm with concepts of streams, classes, functions, data and objects.
		CO4	Understand the concept of function overloading, operator overloading, and Inheritance.
		CO5	Discover, explore and apply tools and best practices in object-oriented programming using virtual functions, virtual class, and Template.
		CO6	Describe the Exception and file handing I/O operations.
			Demonstrate the use of various OOPs concepts with the help of Implementation.
214442	**Computer Organization &Architecture (COA)**	CO1	Solve problems based on computer arithmetic.
		CO2	Explanation of processor structure & its functions.
		CO3	Learn knowledge about micro-programming of a processor.
		CO4	Understand concepts related to memory & IO organization

		CO5	Describe about instruction level parallelism by pipelining system and its hazards.
		CO6	Compare parallel organization of multi-processors & multi core systems.
214453	**Foundations of Communication and Computer Network**	CO1	Understand data/signal transmission over communication media.
		CO2	Recognize usage of various amplitude and angle modulation techniques in communication
		CO3	Analyse various pulse and digital modulation techniques
		CO4	Demonstrate various error detection and error correction techniques
		CO5	Discuss various multiplexing and multiple access techniques.
		CO6	Identify different transmission media and their standards.