Details of Course:

Interdisciplinary Core Course - 3

Course Title: Fundamentals of Computers

Course Title	Course Structure			Pre-Requisite
Fundamentals of Computers	**L**	**T**	**P**	**Nil**
	3	**0**	**2**	

Course Objective:
Everyday, engineering students required to work with computer for problem solving in academia, research, and industry. Students will get knowledge about the evolution of computer, computer architecture, input devices, output devices, computer codes, computer software, operating system, programming language, and internet. Thus, students will be able to learn about the importance of data storage in the computer and computer arithmetic. With the help of this course, the student will be able to understand the functioning of computer units, and storage of data in the computer.

Course Outcome (CO):
After completing their course in Fundamentals of Computer, students will be able to
CO1. Describe the procedure of designing algorithm and drafting pseudocode for problem solving.
CO2. Describe the computer organization and architecture of central processing unit.
CO3. Describe the computer codes, computer arithmetic and number conversion system.
CO4. Describes the procedure of installing functionalities and installation of different operating system, software.
CO5. Demonstrate steps to write a basic program for solving real world problems using high-level language.

S.No.	Content	Contact Hours
Unit 1	Introduction: Evolution of Computers, Generation of Computers, Classification of Computers, Computing Concepts, The Computer System, Applications of Computers. Computer Organization and Architecture: Central Processing Unit, Internal Communications, Machine Cycle, The Bus and Instruction Set.	8
Unit 2	Memory and Storage Systems: Memory Representation, Random Access Memory, Read Only Memory, Storage System - Magnetic, Optical, Magneto, Solid State, Storage evaluation criteria. Input Devices. Output Devices	8
Unit 3	Computer Codes: Decimal System, Binary System, Hexadecimal system, Octal System, 4-bit	10