Course Title	Computer Organization & Design Practice	Course No	To be filled by the office		
Specialization	Computer Engineering	Structure (IPC)	0	3	2
Offered for	UG and DD	Status	Core ■		Elective ☐
Course Objectives	Exposure to assembly language programming, instruction set design, and processor design for a given instruction set are given. Assembler macros, interrupt service routines, and simple device driver programs would also be introduced. Computer system design concepts are introduced.				
Course Outcomes	Students would be able to demonstrate programming proficiency using the various addressing modes and data transfer instructions of the target computer, and design microcomputer systems.				
Contents of the course	Exercises will mainly involve writing the assembly language programs - Execution of assembly language programs: Single–step, break points, Accessing the contents of registers, accessing the contents of memory locations - Implementation of higher level language assignment statements with arithmetic expressions and logical expressions - Implementation of control transfer statements. Macros - Software interrupts - Operating system function calls - Interrupt service routines - Simple device drivers - Assembly language programming in C language. I/O interfacing and programming. Computer System Design.				
Textbook	1. Patterson and Hennessy, "Computer Organization and Design," Morgan Kaufmann, 5th Edition, 2013.				
References	1. C. Hamacher, Z. Vranesic, and S. Zaky, "Computer Organizaton," Tata McGraw Hill, 2002.				