Course Name	Microprocessor & Assembly Language
Course Number	343 CSM 3
Credit Hours	3
Contact Hours	4
Course Coordinator	Dr.Justin Varghese

Text Books	1. R.S.Goankar, Microprocessor Architecture Programming and Applications with the 8085/ 8080A, 5th Edition, PHI. 2. V.Vijayendran, Fundamentals of Microprocessor-64 Architecture Vijay Nicole Publication.
Other Supplemental Materials	
Specific Course Information	
a. Course Description	This course introduces microprocessors, instruction set of microprocessors, assembly language programming and machine language concepts. Internal communication structure, memory interface components, Input Output processors, Direct Memory Access technique are discussed. The role of interrupts and interrupt handling techniques are also introduced. The students are given training in developing assembly language programs for simple problems during the theoretical and practical sessions
b. Pre-requisite	241CSM-4 Digital Logic
c. Required/ Elective/ Selected Elective	Required
Specific Goals for the Course	
a. Course Learning Outcomes	1. Define fundamental concepts of 8085 microprocessor 2. Recognize the applicability of microprocessors 3. List and describe 8085 instruction set 4. Develop Assembly Language Programs using 8085 Instruction Set 5. Analyse Assembly Language programs for proposing solutions to the real world problems 6. Operate to solve problems, manage time, resources and tasks with group members 7. Express understood concepts in both oral and written ways

Mapping of STUDENT LEARNING OUTCOMES(SLOS) with COURSE LEARNING OUTCOMES(CLOS)		a1	a2	b1	b2	b3	b4	c1	c2	c3	c4	d1	d2
	1	√	√										
	2		√										
	3	√	√										
	4			√	√	√							
	5					√	√						
	6							√	√	√	√		
	7											√	√

Topics Covered	**Introduction to microprocessor**: Organization & architecture of 8085 microprocessor, functional block diagram, registers, ALU, bus systems, timing and control signals, machine cycles and timing diagrams for 8085 microprocessor.
	Instruction: set-data transfer, arithmetic operations, logic operations and branch operations. Programming techniques-looping, counting and indexing. Additional data transfer and 16-bit instructions. Arithmetic operations related to memory. Logic operations- rotate, compare and debugging.
	Hardware scheme for data transfer, Programmed data transfer, Interrupt data transfer, Various interrupt schemes, Multiple interrupts, Enabling, Disabling and masking of interrupts.
	Stack, Stack pointer, Program counter, Storage and retrieval of information using PUSH and POP instructions, Subroutine, Information exchange between program counter and stack, Conditional CALL and RET instructions. Subroutines: multiple calling, nesting and common ending. Similarities and differences between PUSH/POP and CALL/RET instructions.
	T-State, Machine cycle, Instruction cycle, Memory read cycle, Memory write cycle, Wait state, Halt state, Hold state, Timing diagram for MOV B,A, DCX D