

The Maharaja Sayajirao University of Baroda Polytechnic Higher Payment Program Diploma in Computer Engineering			ACADEMIC YEAR 2021-2022		
Year	III	MICROPROCESSORS (CSE3619)	Lecture Hrs per week	4	
Semester	II		Max marks	100	
Pre-Requisite: Mathematics, Basics of Electronics, Digital Electronics					
CO1	Illustrate the architecture, operations, bus systems, memory organization, and interrupt mechanisms of the 8085 microprocessor.				
CO2	Develop simple 8085 assembly language programs using instruction formats, timing diagrams, logic operations, looping, counting, indexing, stack, and subroutine techniques.				
CO3	Describe interfacing techniques for input/output devices, including memory-mapped I/O, display interfacing, and troubleshooting of I/O circuits.				
CO4	Explain the architecture, signal descriptions, register organization, and memory organization of the 8086 and advance processors.				
CO5	Apply addressing modes, instruction sets, assembler directives, and interrupt programming to write and test 8086 assembly programs, including timing and delay routines.				
BT	1. Remember 2. Understand 3. Application 4. Analysis 5. Evaluation 6. Creation				
COURSE CONTENT/SYLLABUS					
Unit	Unit Name		Hrs	Weightage	CO
1	Microprocessor Architecture And Microcomputer System: Microprocessor Architecture and its operations, Bus and memory organization Microcomputer system, 8085 Microprocessor: Block diagram, Address and data bus, control and status signals, Power-supply and clock frequency, Interrupts and externally initiated operations, serial I/O ports, BUS timings, Flags.		10	16	CO1
2	8085 Instruction And Timing Diagram: Instruction Formats: Single byte, Two byte and Three bytes instructions, Op-code format, Instruction Timings and operation status, Simple programs, Various types of instructions in detail, 8085 programming techniques - Looping, Counting and Indexing, Logic operations, Counter and Timing delays. Stack and Subroutines.		15	22	CO1, CO2
3	Interfacing I/O Devices: Interfacing Output Displays, Interfacing Input Devices, Memory – Mapped I/O, Testing and Troubleshooting I/O Interfacing Circuits.		4	10	CO2, CO3
4	The Processor 8086: Register Organisation of 8086, Architecture, Signal Description of 8086, Physical Memory Organisation, General Bus Operation, Minimum Mode and Maximum Mode System and Timings.		10	16	CO1, CO4
5	8086 Instruction Set And Programming: Addressing Modes of 8086, Instruction Set of 8086, Assembler Directive and Operators & Programming.		10	16	CO1, CO2, CO4
6	Basic Interrupt Processing: Interrupts and Interrupt Service Routines, Interrupt Cycle of 8086, Non Maskable Interrupt, Maskable Interrupt, Interrupt Programming, Timing and Delays.		4	10	CO1, CO2, CO3, CO5
7	Advanced Processors: 80286-80287, 80386-80387, 80486, Introduction to PENTIUM Processor, Basic and additional features of, Pentium-Pro, Pentium II, Pentium III, Pentium IV and Core2 Microprocessor.		4	10	CO1, CO4
			57	100	
REFERENCE BOOKS:					
1.	Microprocessor Architecture, Programming & Applications with 8085. - R.S.Gaonkar ; Willey Eastern Ltd. (or PRI)				
2.	Fundamentals of Microprocessor and Microcomputers – B.Ram; Dhanpat Rai Publ.				
3.	Microprocessor and Interfacing: Programming and Hardware - Douglas V. Hall				
4.	The Intel Microprocessor - Barry B. Bray				
5.	Microprocessors: Fundamentals Concepts and Application - Victor E. Gibson				

