GOVERNMENT POLYTECHNIC, DHENKANAL
DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGG.
LESSON PLAN SUMMER 2025

Subject:- Microprocessor & Microcontroller (Th. 3)	No of Days/per Week Class Allotted :- 5	Semester From:- :- 04.02.2025 To:- 17.05.2025
		Name of the Faculty: Lincoln Mohanty

Week	Class Day	Theory
1st	1st	Introduction to Microprocessor and Microcomputer & distinguish between them.
	2nd	Concept of Address bus, Data bus, Control bus & System Bus
	3rd	Concept of Address bus, Data bus, Control bus & System Bus
	4th	General Bus structure Block diagram
	5th	Basic Architecture of 8085 (8 bit) Microprocessor
2nd	1st	Basic Architecture of 8085 (8 bit) Microprocessor
	2nd	Basic Architecture of 8085 (8 bit) Microprocessor
	3rd	Basic Architecture of 8085 (8 bit) Microprocessor
	4th	Signal Description (Pin diagram) of 8085 Microprocessor
	5th	Signal Description (Pin diagram) of 8085 Microprocessor
3rd	1st	Signal Description (Pin diagram) of 8085 Microprocessor
	2nd	Register Organizations, Distinguish between SPR & GPR, Timing & Control Module
	3rd	Register Organizations, Distinguish between SPR & GPR, Timing & Control Module
	4th	Stack, Stack pointer & Stack top
	5th	Interrupts:-8085 Interrupts, Masking of Interrupt(SIM,RIM)
4th	1st	Addressing data & Differentiate between one-byte, two-byte &three-byte instructions with examples..
	2nd	Addressing modes in instructions with suitable examples
	3rd	Instruction Set of 8085(Data Transfer, Arithmetic, Logical, Branching, Stack& I/O , Machine Control)
	4th	Instruction Set of 8085(Data Transfer, Arithmetic, Logical, Branching, Stack& I/O , Machine Control)
	5th	Instruction Set of 8085(Data Transfer, Arithmetic, Logical, Branching, Stack& I/O , Machine Control)
5th	1st	Simple Assembly Language Programming of 8085
	2nd	Simple Addition & Subtraction
	3rd	Logic Operations (AND, OR, Complement 1's & 2's) & Masking of bits
	4th	Counters & Time delay (Single Register, Register Pair, More than Two Register)
	5th	Looping, Counting & Indexing (Call/JMP etc).
6th	1st	Code conversion, BCD Arithmetic & 16 Bit data Operation,
	2nd	Block Transfer
	3rd	Compare between two numbers
	4th	Array Handling (Largest number & smallest number in the array)
	5th	Memory & I/O Addressing
7th	1st	Define opcode, operand, T-State, Fetch cycle,..
	2nd	Machine Cycle, Instruction cycle & discuss the concept of timing diagram.
	3rd	Draw timing diagram for memory read machine cycle
	4th	Draw timing diagram for memory write machine cycle
	5th	Draw timing diagram for I/O read machine cycle

8th	1st	Draw a neat sketch for the timing diagram for 8085 instruction (MOV instruction)
	2nd	Draw a neat sketch for the timing diagram for 8085 instruction (MVI, instruction)
	3rd	Draw a neat sketch for the timing diagram for 8085 instruction (LDA instruction)
	4th	Concept of interfacing
	5th	Define Mapping &Data transfer mechanisms - Memory mapping & I/O Mapping
9th	1st	Concept of Memory Interfacing:- Interfacing EPROM & RAM Memories
	2nd	Concept of Address decoding for I/O devices
	3rd	Programmable Peripheral Interface: 8255
	4th	ADC & DAC with Interfacing.
	5th	Interfacing Seven Segment Displays
10th	1st	Generate square waves on all lines of 8255
	2nd	Design Interface a traffic light control system using 8255 , Design interface for
	3rd	Basic concept of other Interfacing DMA controller USART
	4th	Register Organisation of 8086
	5th	Internal architecture of 8086
11th	1st	Internal architecture of 8086
	2nd	Signal Description of 8086
	3rd	Signal Description of 8086
	4th	General Bus Operation& Physical Memory Organisation
	5th	Minimum Mode & Timings
12th	1st	Maximum Mode &Timings
	2nd	Interrupts and Interrupt Service Routines, Interrupt Cycle, Non-Maskable Interrupt, Maskable Interrupt
	3rd	Instruction Set & Programming: Addressing Modes
	4th	Instruction Set, Assembler Directives and Operators
	5th	Simple Assembly language programming using 8086 instructions.
13th	1st	Distinguish between Microprocessor & Microcontroller
	2nd	8 bit & 16 bit microcontroller
	3rd	CISC & RISC processor
	4th	Architectureof8051 Microcontroller
	5th	Signal Description of 8051Microcontrollers
14th	1st	Signal Description of 8051Microcontrollers
	2nd	Memory Organisation-RAM structure, SFR
	3rd	Registers ,timers ,interrupts of8051Microcontrollers
	4th	Addressing Modes of 8051
	5th	Simple 8051 Assembly Language Programming Arithmetic & Logic Instructions ,
15th	1st	JUMP, LOOP, CALL Instructions, I/O Port Programming
	2nd	JUMP, LOOP, CALL Instructions, I/O Port Programming
	3rd	Interrupts, Timer & Counters
	4th	Serial Communication
	5th	Microcontroller Interrupts and Interfacing to 8255

Signature of Faculty

31/01/25

Signature of HOD