DHABALESWAR INSTITUTE OF POLYTECHNIC
LESSON PLAN

Discipline: ETC	Semester: 4th	Name of the Teaching Faculty: Sikkimtha Ruth
Subject: Microprocessor	No. of days per week Class Alloted: 5	Semester from Dt. 14-02-23 to Dt. 23-05-23 No. of Weeks: 15 weeks.

Week	Class Day	Theory / Practical Topics
1st Week (Feb)	1st day.	Unit-1 Microprocessor 1.1 → Introduction to Microprocessor and Microcomputer.
	2nd day.	1.2 → Concept of Address bus, control bus & System Bus.
	3rd day.	1.3 → General Bus structure Block diagram
	4th day.	1.4 → Basic Architecture of 8085 (8bit) Microprocessor.
2nd week	1st day.	1.5 → Signed Description (Pin diagram) of 8085 Microprocessor.
	2nd day.	1.6 → Register Organization, Distinguish between SPR & GPR, Timing & control Module.
	3rd day.	1.7 → Stack, Stack pointer & Stack top.
	4th day.	1.8 → Interrupt - 8085, Masking of Interrupt (SIM, RIM)
	5th day.	Unit-2 → Instruction Set and Assembly Language Programming.
3rd week	1st day.	2.1 - Addressing data & Differentiable between one-byte, two-byte and three-byte instructions with examples.
	2nd day.	2.2 - Addressing modes in instructions with suitable examples.
3rd week (March)	3rd day.	2.3 → Instruction set of 8085 (Data Transfer, Arithmetic, Logical, Branching stack & I/O, Machine control)
	4th day.	2.4 → Simple Assembly language Programming of 8085.
	5th day.	2.4.1 → Simple Addition & Subtraction.
4th week	1st day.	2.4.2 → logic operation (AND, OR, complement (1's & 2's) & Masking of bits
		2.4.3 → Counter & Time delay (Single Register Register pair, More then two Register)

DHABALESWAR INSTITUTE OF POLYTECHNIC
LESSON PLAN

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4th week	2nd day.	2.4.4 → Looping, counting & Indexing
	3rd day.	2.4.5 → Stack & Subroutine Programmings.
	4th day.	2.4.6 → Code conversion, BCD Arithmetic & 16 Bit data operation, Block Transfer.
	5th day.	2.4.7. Compare between two numbers.
		2.4.8 → Array Handing (largest number & Smallest number in the array)
5th week	1st day.	2.5 → Memory & I/O Addressing.
	2nd day.	Unit-3 :- Timing Diagrams.
	3rd day.	3.1 Define ~~Opcode~~ Opcode, operand, T-state
	4th day.	Fetch cycle, Machine Cycle, Instruction
	5th day.	cycle & discuss the concept of timing diagram.
6th week	1st day.	3.2 → Draw timing diagram for memory read, memory write, I/O read
	2nd day.	I/O write machine cycle.
	3rd day.	3.3 :- Draw a neat sketch for the timing diagram for 8085 instruction
	4th day.	(MOV, MVI, LDA instruction)
	5th day.	Unit-4 :- Microprocessor Based System
		4.1 :- Concept of Interfacing.
7th week	1st day.	4.2 :- Define Mapping & Data transfer
	2nd day.	Mechanisms :- Memory mapping & I/O Mapping
	3rd day.	4.3 :- Concept of Memory Interfacing
		Interfacing EPROM & RAM Memories.
	4th day.	4.4 :- Concept of Address decoding for I/O devices
	5th day.	4.5 :- Programmable Peripheral Interface 8255
8th week (April)	1st day.	4.6 :- ADC & DAC with interfacing.
	2nd day.	4.7 :- Interfacing Seven Segment Display

DHABALESWAR INSTITUTE OF POLYTECHNIC
LESSON PLAN

Week	Class Day	Theory / Practical Topics
8th week (April)	3rd day.	4.8:- Generate square wave on all lines of 8255.
	4th day.	4.9:- Design Interface an traffic light control system using 8255.
	5th day.	4.10:- Design interface for stepper motor control using 8255.
9th week	1st day.	4.11:- Basic concept of other interfacing
	2nd day.	DMA controller, USART.
	3rd day.	Unit:-5 Microprocessor (8086 - 16 bit)
	4th day.	5.1:- Register Organisation of 8086
	5th day.	5.2:- Internal architecture of 8086.
10th week	1st day.	5.3:- Signal Description of 8086.
	2nd day.	5.4:- General Bus operation & Physical Memory Organisation.
	3rd day.	5.5:- Minimum Mode & Timings
	4th day	5.6:- Maximum Mode & Timings.
	5th day.	5.7:- Interrupts and Interrupt Service Routines, Interrupt Cycle, Non-Maskable Interrupt, Maskable Interrupt.
11th week	1st day	5.8:- 8086 Instruction Set & Programming Addressing Modes, Instruction Set, Assembler Directives and operators.
	2nd day.	
	3rd day.	5.9:- Simple Assembly language programming 8086 Instructions.
	4th day.	Unit:6- Microcontroller
	5th day.	6.1:- Distinguish between Microprocessor & Microcontroller.

DHABALESWAR INSTITUTE OF POLYTECHNIC
LESSON PLAN

Week	Class Day	Theory / Practical Topics
12th week (May)	1st day.	6.2:- 8 bit & 16-bit Microcontroller.
		6.3 :- CISC & RISC processors.
	2nd day.	6.4:- Architechture of 8051 Micro-controller.
	3rd day.	6.5:- Signal Description of 8051 Microcontrollers.
	4th day.	6.6:- Memory Organisation RAM structure, SFR.
	5th day.	6.7:- Registers, timers, Interrupts of 8051 Microcontrollers.
13th week	1st day.	6.8:- Addressing Modes of 8051
	2nd day.	6.9:- Simple 8051 Assembly Language Programming Arithmetic & Logic
	3rd day.	Instructions, JUMP, LOOP, CALL Instructions, I/O Port Programming.
	4th day.	6.10:- Interrupts, Timer & Counters.
	5th day.	6.11:- Serial Communication.
14th week	1st day.	6.12:- Microcontroller Interrupts and Interfacing to 8255.
	2nd day.	Previous years Q/A Discuss.
	3rd day	Previous year Q/A Discussion.
	4th day	Previous year Q/A Discussion.
	5th day	Previous year Q/A Discussion

DHABALESWAR INSTITUTE OF POLYTECHNI

LESSON PLAN

Week	Class Day	Theory / Practical Topics
15 th week	1st day	Revision
	2nd day	Revision.