

**LESSON PLAN-2021-22 (SUMMER-2022)**

| DISCIPLINE-ETC  | Semester- 4th                        | Name of teaching faculty-ER. RAKHAL CHANDRA SAHOO   |
|-----------------|--------------------------------------|---|
| SUBJECT-MP & MC | No of days per week class allotted-5 | SEM From date- 14/03/2022<br>No of weeks-16   |
| Week            | Class day                            | Topics Covered  |
| 3RD             | 14.03.2022                           | Introduction to Microprocessor and Microcomputer & distinguish between them.  |
|                 | 15.03.2022                           | Microprocessor (Architecture and Programming-8085-8-bit)  |
|                 | 16.03.2022                           | Do <i>Microprocessor</i>  |
| 4TH             | 21.03.2022                           | Concept of Address bus, Data bus, Control bus & System Bus  |
|                 | 22.03.2022                           | General Bus structure Block diagram. 1.4 Basic Architecture of 8085 (8 bit) Microprocessor  |
|                 | 23.03.2022                           | Do <i>General Bus structure Block diagram.</i>  |
|                 | 25.03.2022                           | Signal Description (Pin diagram) of 8085 Microprocessor   |
|                 | 26.03.2022                           | Register Organizations, Distinguish between SPR & GPR, Timing & Control Module,   |
| 5TH             | 28.03.2022                           | Stack, Stack pointer & Stack top  |
|                 | 29.03.2022                           | Interrupts:-8085 Interrupts, Masking of Interrupt(SIM,RIM)  |
|                 | 30.03.2022                           | Instruction Set and Assembly Language Programming 2.1 Addressing data & Differentiate between one-byte, two-byte & three-byte instructions with examples.         |
| 1st             | 02.04.2022                           | Addressing modes in instructions with suitable examples. 2.3 Instruction Set of 8085(Data Transfer, Arithmetic, Logical, Branching, Stack& I/O , Machine Control) |
| 2ND             | 04.04.2022                           | Simple Assembly Language Programming of 8085 2.4.1 Simple Addition & Subtraction 2.4.2 Logic Operations (AND, OR, Complement 1's & 2's) & Masking of bits         |
|                 | 05.04.2022                           | Counters & Time delay (Single Register, Register Pair, More than Two Register) 2.4.4 Looping, Counting & Indexing (Call/JMP etc).                                 |
|                 | 06.04.2022                           | Stack & Subroutine programmes. 2.4.6 Code conversion, BCD Arithmetic & 16 Bit data Operation, Block Transfer  |
|                 | 08.04.2022                           | Compare between two numbers 2.4.8 Array Handling (Largest number & smallest number in the array)  |
|                 | 09.04.2022                           | Memory & I/O Addressing,  |
| 3RD             | 11.04.2022                           | TIMING DIAGRAMS. 3.1 Define opcode, operand, T-State, Fetch cycle, Machine Cycle, Instruction cycle & discuss the concept of timing diagram.                      |
|                 | 12.04.2022                           | Draw timing diagram for memory read, memory write, I/O read, I/O write machine cycle.   |
|                 | 13.04.2022                           | Draw a neat sketch for the timing diagram for 8085 instruction (MOV, MVI, LDA instruction).   |
|                 | 16.04.2022                           | Microprocessor Based System Development Aids 4.1 Concept of interfacing   |

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| 4TH | 18.04.2022 | Define Mapping & Data transfer mechanisms - Memory mapping & I/O Mapping<br>4.3 Concept of Memory Interfacing:- Interfacing EPROM & RAM Memories |
|     | 19.04.2022 | Concept of Address decoding for I/O devices  |
|     | 20.04.2022 | Programmable Peripheral Interface: 8255  |
|     | 22.04.2022 | ADC & DAC with Interfacing   |
|     | 23.04.2022 | Interfacing Seven Segment Displays   |
| 5TH | 25.04.2022 | Generate square waves on all lines of 8255   |
|     | 26.04.2022 | Design Interface a traffic light control system using 8255   |
|     | 27.04.2022 | Design interface for stepper motor control using 8255.   |
|     | 29.04.2022 | Basic concept of other Interfacing DMA controller, USART   |
|     | 30.04.2022 | Microprocessor (Architecture and Programming-8086-16 bit) 5.1 Register Organisation of 8086  |
| 1st | 02.05.2022 | Internal architecture of 8086  |
|     | 04.05.2022 | Signal Description of 8086   |
|     | 06.05.2022 | General Bus Operation & Physical Memory Organisation   |
|     | 07.05.2022 | Minimum Mode & Timings   |
| 2nd | 09.05.2022 | Maximum Mode & Timings,  |
|     | 10.05.2022 | Interrupts and Interrupt Service Routines, Interrupt Cycle, Non-Maskable Interrupt, Maskable Interrupt   |
|     | 11.05.2022 | 8086 Instruction Set & Programming: Addressing Modes, Instruction Set, Assembler Directives and Operators,                                       |
|     | 13.05.2022 | Simple Assembly language programming using 8086 instructions.  |
|     | 14.05.2022 | Microcontroller (Architecture and Programming-8 bit):  |
| 3rd | 16.05.2022 | Distinguish between Microprocessor & Microcontroller   |
|     | 17.05.2022 | 8 bit & 16 bit microcontroller   |
|     | 18.05.2022 | CISC & RISC processor  |
|     | 20.05.2022 | Architecture of 8051 Microcontroller   |
|     | 21.05.2022 | do Architecture of 8051 Microcontroller  |
| 4th | 23.05.2022 | Signal Description of 8051 Microcontrollers  |
|     | 24.05.2022 | do Signal Description of 8051 microcontroller  |
|     | 25.05.2022 | Memory Organisation-RAM structure, SFR   |
|     | 27.05.2022 | Registers, timers, interrupts of 8051 Microcontrollers   |
|     | 28.05.2022 | do Registers, timers, interrupts of 8051   |
| 5th | 30.05.2022 | Addressing Modes of 8051   |
|     | 31.05.2022 | Simple 8051 Assembly Language Programming Arithmetic & Logic Instructions  |
| 1st | 01.06.2022 | do Simple 8051 Assembly Language   |
|     | 03.06.2022 | JUMP, LOOP, CALL Instructions, I/O Port Programming  |
|     | 04.06.2022 | Interrupts, Timer & Counters   |
| 2nd | 06.06.2022 | do Interrupts, Timer & counters.   |
|     | 07.06.2022 | Serial Communication   |
|     | 08.06.2022 | Microcontroller Interrupts and Interfacing to 8255   |
|     | 10.06.2022 | do   |

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