LESSION PLAN

Name of Faculty   : Pooja

Discipline   : Computer Engineering

Semester   : IV

Subject   : Microprocessors and Peripheral Devices (MPD)

Lesson Plan Duration   : 15 weeks (from March 2023 to June 2023)

Work Load (Lecture/ Practical) per week (In Hours):- Lecture-**03**/ Practical-**06**

Week	Lecture / Day	THEORY TOPIC	Practical / Week	PRACTICAL TOPIC
1st	1st	Typical organization of a microcomputer system and functions of its various blocks.	1st Group-1	Familiarization of different keys of 8085 microprocessor kit and its memory map.
	2nd	Typical organization of a microcomputer system and functions of its various blocks.		
	3rd	Microprocessor:- its evolution & function	2nd Group-2	Familiarization of different keys of 8085 microprocessor kit and its memory map.
2nd	4th	Microprocessor:- Impact on modern society	3rd Group-1	Steps to enter, modify data/program and to execute a program on 8085 kit.
	5th	Introduction: Architecture of a Microprocessor (Reference to 8085 microprocessor)		
	6th	Concept of Bus	4th Group-2	Steps to enter, modify data/program and to execute a program on 8085 kit.
3rd	7th	Bus organization of 8085	5th Group-1	Writing and execution of ALP for addition and substation of two 8 bit numbers.
	8th	Functional block diagram of 8085		
	9th	Function of each block of 8085	6th Group-2	Writing and execution of ALP for addition and substation of two 8 bit numbers

4th	10th	Pin details of 8085 and related signals	7th Group-1	**REVISION**
	11th	De-multiplexing of address/data bus generation of read/write control signals		
	12th	De-multiplexing of address/data bus generation of read/write control signals	8th Group-2	**REVISION**
5th	13th	Steps to execute a stored program	9th Group-1	Writing and execution of ALP for multiplication and division of two 8 bit numbers
	14th	• **Assignment-1** • **Sessional-1**		
	15th	Introduction: Instruction Timing and Cycles	10th Group-2	Writing and execution of ALP for multiplication and division of two 8 bit numbers
6th	16th	Instruction cycle	11th Group-1	Writing and execution of ALP for arranging 10 numbers in ascending/descending order
	17th	Machine cycle		
	18th	T-states	12th Group-2	Writing and execution of ALP for arranging 10 numbers in ascending/descending order
7th	19th	Fetch and execute cycle.	13th Group-1	Writing and execution of ALP for 0 to 9 BCD counters (up/down counter according to choice stored in memory)
	20th	Fetch and execute cycle.		
	21th	Programming (with respect to 8085 microprocessor) :- Introduction	14th Group-1	Writing and execution of ALP for 0 to 9 BCD counters (up/down counter according to choice stored in memory)

8th	22th	Brief idea of machine and assembly languages	15th Group-1	**REVISION**
	23th	Machines and Mnemonic codes		
	24th	Instruction format and Addressing mode	16th Group-2	**REVISION**
9th	25th	Identification of instructions as to which addressing mode they belong	17th Group-1	Interfacing exercise on 8255 like LED display control
	26th	Concept of Instruction set		
	27th	Explanation of the instructions of the following groups of instruction set	18th Group-2	Interfacing exercise on 8255 like LED display control
10th	28th	Data transfer group, Arithmetic Group, Logic Group, Stack, I/O and Machine Control Group	19th Group-1	Interfacing exercise on 8253 programmable interval timer
	29th	Data transfer group, Arithmetic Group, Logic Group, Stack, I/O and Machine Control Group		
	30th	Programming exercises in assembly language. (Examples can be taken from the list of experiments).	20th Group-2	Interfacing exercise on 8253 programmable interval timer
11th	31th	Programming exercises in assembly language. (Examples can be taken from the list of experiments).	21th Group-1	Interfacing exercise on 8279 programmable KB/display interface like to display the hex code of key pressed on display
	32th	Memories and I/O interfacing:- Introduction		
	33th	Concept of memory mapping, partitioning of total memory space, Address decoding	22th Group-2	Interfacing exercise on 8279 programmable KB/display interface like to display the hex code of key pressed on display

12th	34th	Concept of peripheral mapped I/O and memory mapped I/O , Interfacing of memory mapped I/O devices	23rd Group-1	**REVISION**
	35th	• **Assignment-2** • **Sessional-2**		
	36th	Interrupts:- Concept of interrupt, Maskable and non-maskable, Edge triggered and level triggered interrupts, Software interrupt, Restart interrupts and its use.	24th Group-2	**REVISION**
13th	37th	Various hardware interrupts of 8085, Servicing interrupts, extending interrupt system	25th Group-1	Use of 8085 emulator for hardware testing
	38th	Data Transfer Techniques:- Concept of programmed I/O operations,		
	39th	sync data transfer, async data transfer (hand shaking),	26th Group-2	Use of 8085 emulator for hardware testing
14th	40th	Interrupt driven data transfer, DMA, Serial output data, Serial input data	27th Group-1	**Test**
	41st	Peripheral devices:- 8255 PPI, 8253 PIT and		
	42nd	8257 DMA controller	28th Group-2	**Test**
15th	43rd	Architecture of 8086 Microprocessor:- • Block diagram	29th Group-1	**Test**
	44th	Architecture of 8086 Microprocessor :- • Minimum and Maximum mode • Pin and Signals		
	45th	• **Assignment-3** • **Sessional-3**	30th Group-2	**Test**