

GOVT. POLYTECHNIC MANDI ADAMPUR

Lesson Plan

Name of faculty Amit Kumar
 Discipline Comp.
 Semester 4th
 Subject MICROPROCESSORS AND PERIPHERAL DEVICES
 Lesson plan duration 15 week (from January 2018 to April 2018)

Week	Theory		Practical	
	Lecture day	Topic (including assignment/test)	Practical day	Topic
1st	1	Evolution of Microprocessor	1st	Familiarization of different keys of 8085 microprocessor kit and its memory map
	2	Typical organization of a microcomputer system and functions of its various blocks		
	3	Microprocessor, its evolution and function		
	4	Impact of Microprocessor on modern society *Assignment Topic		
2nd	5	Revision of last unit	2nd	Steps to enter, modify data/program and to execute a programme on 8085 kit
	6	Architecture of a Microprocessor (With reference to 8085 microprocessor)		
	7	Architecture of a Microprocessor (With reference to 8085 microprocessor)		
	8	Concept of Bus, bus organization of 8085,		
3rd	9	Functional block diagram of 8085 and function of each block *Assignment Toppic	3rd	Writing and execution of ALP for addition and sub station of two 8 bit numbers
	10	Pin details of 8085 and related signals		
	11	Demultiplexing of address/data bus		
	12	Demultiplexing of address/data bus		
4th	13	Generation of read/write control signals	4th	Writing and execution of ALP for arranging 10 numbers in ascending/descending order
	14	Steps to execute a stored programme		
	15	Revision of Unit 2		
	16	Class test of unit 1 and unit 2		
5th	17	Instruction Timing and Cycles (Basic Introduction)	5th	Writing and execution of ALP for 0 to 9 BCD counters (up/down counter according to choice stored in memory)
	18	Instruction cycle		
	19	machine cycle		
6th	20	T-states	6th	Interfacing exercise on 8255 like LED display control
	21	Fetch and execute cycle		
	22	Comparison between all the cycles		
7th	23	Revision of Unit 3	7th	Interfacing exercise on 8253 programmable interval timer
	24	Brief idea of machine and assembly languages		
	25	Machines and Mnemonic codes		
8th	26	Instruction format and Addressing mode	8th	Interfacing exercise on 8279 programmable KB/display interface like to display the hex code of key pressed on display
	27	Identification of instructions as to which addressing mode they belong		
	28	Identification of instructions as to which addressing mode they belong		
9th	29	Concept of Instruction set	9th	Use of 8085 emulator for hardware testing
	30	Explanation of the instructions of the following groups of instruction set		
	31	Explanation of the instructions of the following groups of instruction set		
10th	32	Explanation of the instructions of the following groups of instruction set	10th	Writing and execution of ALP for addition and sub station of two 8 bit numbers
	33	Data transfer group, Arithmetic Group, Logic Group		
	34	Stack, I/O and Machine Control Group		
	35	Stack, I/O and Machine Control Group		
	36	Programming exercises in assembly language (with the help of examples)		
	37	Programming exercises in assembly language (with the help of examples)		
	38	Revision of unit 4		
	39	Class test of unit 4		
	40	Concept of memory mapping,		
	41	partitioning of total memory space		
	42	Address decoding		

11th	43	concept of peripheral mapped I/O and memory mapped I/O * Assignment Topic	11th	Writing and execution of ALP for addition and sub station of two 8 bit numbers
	44	concept of peripheral mapped I/O and memory mapped I/O * Assignment Topic		
12th	45	Interfacing of memory mapped I/O devices	12th	Writing and execution of ALP for arranging 10 numbers in ascending/descending order
	46	Interfacing of memory mapped I/O devices		
	47	Revision		
	48	Concept of interrupt, Maskable and non-maskable		
13th	49	Edge triggered and level triggered interrupts, Software interrupt, Restart interrupts and its use	13th	Writing and execution of ALP for 0 to 9 BCD counters (up/down counter according to choice stored in memory)
	50	Various hardware interrupts of 8085		
	51	Servicing interrupts, extending interrupt system		
	52	Concept of programmed I/O operations,		
14th	53	sync data transfer, async data transfer (hand shaking)	14th	Interfacing exercise on 8255 like LED display control
	54	Interrupt driven data transfer, DMA		
	55	Serial output data, Serial input data		
	56	Revision		
15th	57	8255 PPI and 8253 PIT	15th	Writing and execution of ALP for 0 to 9 BCD counters (up/down counter according to choice stored in memory)
	58	8257 / 8237 DMA controller		
	59	8279 Programmable KB/Display Interface		
	60	8251 Communication Interface Adapter		
	61	Revision		