

Name of the Faculty : Sanjeev Kumar Gupta

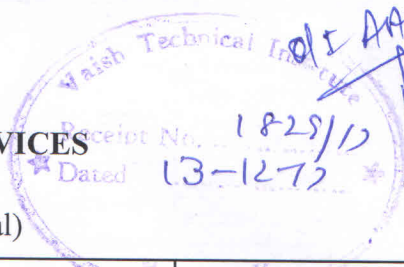
Discipline : Electronics and Communication Engg.

Semester : IVth

Subject : MICROPROCESSORS AND PERIPHERAL DEVICES

Lesson Plan Duration: Jan-Apr 2018

Work Load per week : 04 Periods (Lecturer)/ 03 Periods (Practical)



Week	Theory		Practical
	Lecture day	Topic (including assignment/ test)	Topic
1 <sup>st</sup>	1	Introduction about subject	Introduction about Practical
	2	Concept of Microprocessor	
	3	Typical organization of a microcomputer system and functions of its various blocks	
	4	Microprocessor, its evolution, function and impact on modern society	
2 <sup>nd</sup>	5	Concept of Bus, bus organization of 8085,	Familiarization of different keys of 8085 microprocessor kit and its memory map
	6	Functional block diagram of 8085 and function of each block	
	7	Pin details of 8085 and related signals	
	8	Pin details of 8085 and related signals	
3 <sup>rd</sup>	9	Demultiplexing of address/data bus, generation of read/write & control signals	Familiarization of different keys of 8085 microprocessor kit and its memory map
	10	Steps to execute a stored programme	
	11	Instruction Timing and Cycles	
	12	Instruction cycle, machine cycle, T-states, Fetch and execute cycle	
4 <sup>th</sup>	13	Revision/Student Problems Solution	Steps to enter, modify data/program and to execute a programme on 8085 kit
	14	Concept of machine, assembly language, mnemonics	
	15	Instruction formats & Addressing modes	
	16	8085 instruction	
5 <sup>th</sup>	17	8085 instruction	Writing and execution of ALP for addition and subtraction of two 8 bit numbers
	18	8085 instruction	
	19	8085 instruction	
	20	1 <sup>st</sup> Sessional Test	
6 <sup>th</sup>	21	Addressing modes	Writing and execution of ALP for multiplication and division of two 8 bit numbers
	22	8085 instruction	
	23	8085 instruction	
	24	Stack, I/O and Machine Control Group. Programming exercises in assembly language. (Examples can be taken from the list of experiments).	
7 <sup>th</sup>	25	Revision/Student Problems Solution	Writing and execution of ALP for multiplication and division of two 8 bit numbers
	26	Concept of memory mapping	
	27	Partitioning of total memory space	
	28	Address decoding	

	Theory		Practical
	Lecture day	Topic (including assignment/ test)	Topic
8 <sup>th</sup>	29	Concept of peripheral mapped I/O and memory mapped I/O	Writing and execution of ALP for arranging 10 numbers in ascending/descending order
	30	Concept of peripheral mapped I/O and memory mapped I/O	
	31	Interfacing of memory mapped I/O devices	
	32	Interfacing of memory mapped I/O devices	
9 <sup>th</sup>	33	Programming exercise of 8085	Writing and execution of ALP for 0 to 9 BCD counter (up/down counter according to choice stored in memory)
	34	Programming exercise of 8085	
	35	Programming exercise of 8085	
	36	Programming exercise of 8085	
10 <sup>th</sup>	37	Revision/Student Problems Solution	Interfacing exercise on 8255 like LED display control
	38	Programming exercise of 8085	
	39	Programming exercise of 8085	
	40	2 <sup>nd</sup> Sessional Test	
11 <sup>th</sup>	41	Interrupts, Maskable and non-maskable, Edge triggered and level triggered interrupts.	Interfacing exercise on 8253 programmable interval timer
	42	Software interrupt, Restart interrupts and its use, Various hardware interrupts of 8085	
	43	Various hardware interrupts of 8085	
	44	Various hardware interrupts of 8086	
12 <sup>th</sup>	45	RIM and SIM instruction	Interfacing exercise on 8279 programmable KB/display interface like to display the Hex code of key pressed on display
	46	Priority interrupt controller	
	47	Data Transfer Techniques : sync data transfer, async data transfer (hand shaking),	
	48	Interrupt driven data transfer	
13 <sup>th</sup>	49	DMA, Serial output data, Serial input data	Use of 8085 emulator for hardware testing
	50	Peripheral devices : 8255 PPI	
	51	8255 PPI	
	52	8255 PPI	
14 <sup>th</sup>	53	8253 PIT	Test & Viva
	54	8257 / 8237 DMA controller	
	55	8251 Communication Interface Adapter	
	56	8279 Programmable KB/Display Interface	
15 <sup>th</sup>	57	8279 Programmable KB/Display Interface	Test & Viva
	58	Revision	
	59	Revision	
	60	3 <sup>rd</sup> Sessional	