**VTI ROHTAK ECE DEPTT. LESSON PLAN**

**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 |
| 1st | 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 | |
| 2nd | 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 | |
| 3rd | 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 | |
| 4th | 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 | |
| 5th | 17 | 8085 instruction | Writing and execution of ALP for addition and sub-~~station~~ subtraction of two 8 bit numbers |
| | 18 | 8085 instruction | |
| | 19 | 8085 instruction | |
| | 20 | **1st Sessional Test** | |
| 6th | 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 exDeriments). | |
| 7th | 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 |
| 8th | 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 | |
| 9th | 33 | Proogramming exercise of 8085 | Writing and execution of ALP for 0 to 9 BCD counters (up/down counter according to choice stored in memory) |
| | 34 | Proogramming exercise of 8085 | |
| | 35 | Proogramming exercise of 8085 | |
| | 36 | Proogramming exercise of 8085 | |
| 10th | 37 | Revision/Student Problems Solution | Interfacing exercise on 8255 like LED display control |
| | 38 | Proogramming exercise of 8085 | |
| | 39 | Proogramming exercise of 8085 | |
| | 40 | **2nd Sessional Test** | |
| 11th | 41 | Interrupts, Maskable and non-maskable, Edge triggered and level triggered interruDts. | 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 | |
| 12th | 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 | |
| 13th | 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 | |
| 14th | 53 | 8253 PIT | Test & Viva |
| | 54 | 8257 / 8237 DMA controller | |
| | 55 | 8251 Communication Interface Adapter | |
| | 56 | 8279 Programmable KB/Display Interface | |
| 15th | 57 | 8279 Programmable KB/Display Interface | Test & Viva |
| | 58 | Revision | |
| | 59 | Revision | |
| | 60 | **3rd Sessional** | |