**Lesson Plan**

**Semester :** 5th CSE

**Subject :** Microprocessor & Interfacing

**Lesson Plan Duration:** 15 weeks

Work Load (Lecture) per week (in hours): **Lectures 03 hours**

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| **Week** | **Theory** |
|  | **Lecture day** | **Topic** |
| 1st |  | Evolution of Microprocessor |
|  | **8086 CPU ARCHITECTURE :** 8086 Block diagram, BIU and EU |
|  | Description of data registers, address registers, pointer and index registers, PSW, Queue  |
| 2nd |  | 8086 Pin diagram descriptions |
|  | Generating 8086 CLK and reset signals using 8284 |
|  | WAIT state generation |
| 3rd |  | Microprocessor BUS types and buffering techniques |
|  | 8086 minimum mode and maximum mode CPU module |
|  | revision |
| 4th |  | **Main memory system design:** Memory devices |
|  | 8086 CPU Read/Write timing diagrams in minimum mode and maximum mode |
|  | Address decoding techniques |
| 5th |  | Interfacing SRAMS; ROMS/PROMS |
|  | Interfacing and refreshing DRAMS |
|  | revision |
| 6th |  | **8086 INSTRUCTION SET:** Instruction formats, addressing modes |
|  | Data transfer instructions |
|  | string instructions |
|  7th |  | Minor test |
| 8th |  | Logical instructions, arithmetic instructions |
|  | Transfer of control instructions, process control instructions |
|  | Assembler directives |
| 9th |  | **8086 PROGRAMMING TECHNIQUES**: Writing assembly Language programs for logical processing |
|  | Writing assembly Language programs for arithmetic processing, timing delays |
|  | Writing assembly Language programs for loops, data conversions |
| 10th |  | Revision |
|  | BASIC I/O INTERFACE: Parallel and Serial I/O Port design |
|  | Address decoding |
| 11th |  | Memory mapped I/O Vs Isolated I/O |
|  | Intel’s 8255 description |
|  | 8251- description and interfacing with 8086 |
| 12th |  | ADCs and DACs types, operation, interfacing with 8086 |
|  | Interfacing Keyboards |
|  | alphanumeric displays, multiplexed displays  |
| 13th |  | stepper motor, optical encoder with 8086. |
|  | **INTERRRUPTS AND DMA**: 8086 Interrupt mechanism |
|  | interrupt types and interrupt vector table |
| 14th |  | Minor test |
| 15th |  | Applications of interrupts , Intel’s 8259 |
|  | DMA Operation, Intel’s 8237 |
|  | revision |