MICROPROCESSORS AND COMPUTER ARCHITECTURE
Code: EI402
Contacts: 3L+1T
Credits: 4

Module I: [10]
Introduction to microprocessors: Overview of 8085, Internal architecture, Pin Diagram description. Software instruction set and Assembly Language Programming. Addressing Modes.

Module II: [10]
Instruction cycle, machine cycle, Timing diagrams.
Interrupts: Introduction, Interrupt vector table, Interrupt service routine, Design of programs using interrupts. DMA operation.
Stack and Stack Handling, Call and subroutine, Counter and Time delay generation.

Module III: [12]
Hardware Interfacing: Interfacing memory, Interfacing I/O devices.
Programmable peripheral devices (PPI) – Intel 8255, Programmable interval timer – Intel 8254, Programmable Keyboard/Display Controller- Intel 8279, A/D and D/A converters and interfacing of the same.

Module IV: [8]
General organization of a digital computer, Architecture classification, Parallel computersclassification,
Harvard architecture, Von Neumann architecture, Pipelining, pipeline hazards, Multiprocessors, Array processors.

Books:
1. Microprocessor architecture, programming and applications with 8085/8085A, Wiley eastern Ltd, 1989 by Ramesh S. Gaonkar.
2. Intel Corp: The 8085 / 8085A. Microprocessor Book – Intel marketing communication, Wiley inter science publications, 1980.
3. Fundamental of Microprocessor and Microcontrollers, Dhanpat Rai Publications, By B.Ram
4. Computer Architecture & Organization, McGraw Hill, by J.P.Hayes.
5. Computer System Architecture, Pearson, by M. Mano.
6. Computer Architecture – A Quantitative Approach, John Hennessy and David A Patterson.