AMHE14 MICROPROCESSORS

UNIT-1 INTRODUCTION TO 8 BIT MICROPROCESSOR:

1.1 Microcomputers and microprocessors, 8/ 16/ 32/ 64-bit microprocessor families;
1.2 Internal architecture of Intel 8085 microprocessor: Block diagram, Registers,
1.3 Internal Bus Organization, Functional details of pins,
1.4 Control signals,
1.5 External Address / Data bus multiplexing,
1.6 DE multiplexing, I/ O mapped I/ O, and memory mapped I/ O techniques.
1.7 Interrupts,
1.8 Serial communication and DMA features

UNIT-2 ASSEMBLY LANGUAGE PROGRAMMING

2.1 8085 instruction set: Instructions, Classifications,
2.2 Addressing modes, Stack and Subroutines,
2.3 Delay routines, Counters etc.
2.4 Programming examples.

UNIT-3 INSTRUCTION TIMING AND INTERRUPTS

3.1 Timing Diagrams (of various instructions):
3.2 T- state, Machine cycle (Opcode fetch, Read /
3.3 Write, Interrupt Acknowledge, Bus Idle, etc),
3.4 Interrupts: -types (h/ w and s/ w), Maskable /
3.5 Non maskable, their organization.

UNIT-4 INTERFACING CONCEPTS AND DEVICES:

4.1 Memory interface: Concept of memory chip/ chips interface to 8085 with appropriate examples Programmable interfacing devices
4.2 Programmable peripheral interface (Intel 8255),
4.3 Programmable timer interface (Intel 8253/ 54),
4.4 Programmable display / Keyboard interface (Intel 8279),
4.5 Programmable serial communication interface (Intel 8251)-(their architecture,
4.6 Register organization, initialization,
4.7 Hardware and software interface to 8085.

References Books:

1. Gaonkar: Microprocesors, Architecture, Programming and Applications, Wiely Eastern, 4th Ed.
2. K. UdayaKumar, B.S. Umasankar, "The 8085 Microprocessor-Architecture, Programming and Interfacing", 5e, ISBN : 978 – 81 – 7758 – 455 - 4
3. Nagoor Kani, Microprocessors, architecture and programming, RBA Publications, 2004
4. Douglas V. Hall, Microprocessors, Interfacing and Peripherals, Tata McGraw Hill, 2nd ed.