AMEI-15 COMPUTER ORGANISATION & ARCHITECTURE

UNIT-1 COMPUTER ARITHMETIC AND REGISTER TRANSFER LANGUAGE
1.1 Unsigned notation, signed notation, binary coded decimal, floating point numbers,
1.2 IEEE 754 floating point standard, Micro-operation,
1.3 Bus and Memory Transfers, Bus Architecture, Bus Arbitration,
1.4 Arithmetic Logic, Shift Micro operation, Arithmetic Logic Shift Unit.

UNIT-2 INSTRUCTION SET ARCHITECTURE & COMPUTER ORGANIZATION
2.1 Levels of programming languages, assembly language instructions,
2.2 8085 instruction set architecture, Instruction Codes, Computer Registers,
2.3 Computer Instructions, Timing & Control, Instruction Cycle,
2.4 Memory Reference Instructions, Input-Output and Interrupts

UNIT-3 CONTROL DESIGN
3.1 Instruction sequencing & interpretation, Hardwired & Micro Programmed (Control Unit),
   Micrprogrammed computers, Microcoded CPU: Pentium processor.
3.2 Specifying a CPU, Design & implementation of simple CPU.
3.3 General Register Organization, Stack Organization, Instruction Formats,
3.4 Addressing Modes, Internal architecture of 8085 microprocessor.

UNIT-4 MEMORY & INPUT/OUTPUT ORGANIZATION:
4.1 Memory Technology, Main Memory (RAM and ROM Chips),
4.2 Virtual memory, High-speed memories.
4.3 Asynchronous Data Transfers, Programmed I/O, interrupts,
4.4 Direct memory Access, Serial communication, UARTs, RS-232-C & RS-422 standard.

Reference Books:
1. J. L Hennessy and D. A. Patterson, "Computer Architecture: A quantitative approach", Morgon Kauffman, 1992.
2. W. Stallings, "Computer organization and Architecture", PHI, 7th ed, 2005.