

CORE COURSE VII – A. COMPUTER ARCHITECTURE

UNIT – I

Digital Logic Circuits -Digital Computers – Logic Gates – Boolean Algebra – Map Simplification – Combinational Circuits – Flip-flops – Sequential Circuits.

UNIT – II

Digital Components - Integrated Circuits – Decoders – Multiplexers – Registers – Shift Registers- Binary Counters – Memory Unit.

UNIT – III

Data Representation - Data types – Complements – Fixed Point Representations – Floating Point Representations – Other Binary codes – Error Detection Codes.

UNIT – IV

Register Transfer and Micro operations -Register Transfer Language – Register transfer – Bus and Memory Transfer – Arithmetic Micro Operations – Logic Micro operations – Shift Micro Operations – Arithmetic Logic Shift Unit.

UNIT – V

Central Processing Unit - General Register organization – Stack organization – Instruction formats – Addressing modes – Data Transfer and Manipulation – Program Control – Reduced Instruction Set Computer (RISC).

Text Book:

1. Computer System Architecture, M. Morris Mano Pearson Education, 3rd Edition, 4th Indian Reprint, 2004.

Reference Book:

1. Computer Systems Design and Architecture, Vincent P.Heuring and Harry F.Jordon, 2nd Edition, 1st Indian Reprint 2004.