MAJOR BASED ELECTIVE – III COMPUTER HARDWARE

Unit – I : Number System and Gates

Binary – Decimal and Hexadecimal numbers – Half adder – Full adder – Half subtractor and Full subtractor – IC gates – Combination logic circuits – K-map of 4 variables.

Unit – II Flip-Flops

Sequential logic circuits – Flip-Flops- RS, D, T, JK. Types.

Unit – III Sequential Circuits

Shift Registers – Right and Left – Counter – Ripple counter – Decade Counter – Synchronous Counter (Qualitative).

Unit – IV Memory

RAM - ROM – EPROM – Secondary Memory.

Unit – V Microprocessor

Input and output devices – Computer Architecture – CPU – Evolution – Function – ALU – Timing and Control Units – Address bus – Data bus – Memory and its size – cache memory – Hard disk drive – Floppy disk drive – CD drive.

Text Books:

1. Computer System Architecture, M.Morris Mano, PHI
2. Digital logic and Computer design, M. Morris Mano, PHI

Reference Books:

1. Digital Computer Fundamental, T.C. Bartee, McGraw Hill
2. Computer Organization, V.C. Hamachaer, Z.G. Vranesic & S.G. Zaky, McGraw Hill
3. Digital Princiaple and Applications, Albert Paul Malvino & Donald P. Leach, Tata McGraw Hill