CC – XIV : MICROPROCESSOR BASED INSTRUMENTATION

Unit I – 8085 MICROPROCESSORS

Evolution of microprocessors – Architecture of 8085 – Instruction set – Addressing modes.

Unit II – ASSEMBLY PROGRAMMING

Assembly Programming – Data transfer instructions – Branch instructions – Arithmetic and logic instructions – Subroutines – Programs for 8 bit arithmetic.

Unit III – DATA TRANSFER

8085 interrupt structure – Memory mapping – Data transfer schemes – Programmed data transfer – Interrupt driven data transfer – DMA data transfer.

Unit IV – PERIPHERAL DEVICES

Programmable peripheral interface 8255 – Interrupt controller 8259 – DMA controller 8237 – Serial communication interface 8251.

Unit V – APPLICATIONS

Interfacing data converters – Stepper motor control – Microprocessor based closed loop and open loop control systems – Temperature monitoring.

Books for Study and Reference

1. Microprocessor Fundamentals and applications – Lin – IE – Press – New York – 1977.
2. Digital Computer Electronics – Malvino - McGraw Hill – 1977.
3. Introduction to Microprocessors – D.S. Mathur – Tata McGraw Hill – 3rd edition – 1994.
4. Microprocessors, Principles and Applications – Polit A Servonics – Calcutta – 1977.