Subject Code : RN3I6

SEMESTER III – PAPER VI
ADVANCED MICROPROCESSORS AND INTERFACING

UNIT I: 8086 ARCHITECTURE

8085 Architecture, Instruction set-8086 Microprocessor – Architecture – addressing modes – Instruction format in 8086 – Minimum mode – Maximum mode – Interrupts in 8086 - Difference between 8086 and 8088 microprocessors.

UNIT II – ASSEMBLY LANGUAGE PROGRAMMING

Data Transfer instructions – Arithmetic instructions-Branch instructions-Loop instructions-Flag manipulation instructions-Logical instructions-Shift and rotate instructions – 8085 Program for 8 bit addition, subtraction, multiplication, division, greatest number in an array, sorting an array.

UNIT III: INTERFACING PERIPHERALS

Parallel input/output-serial input/output – basic interfacing concepts – interfacing output displays-Interfacing input key board-Interfacing memory Interfacing A/D, D/A converters.

UNIT IV: INTERFACING ICS

The 8255 programmable peripheral interfacing—8212 IC – The 8253/8254 Programmable interval timer-The 8259 Programmable interrupt controller-The 8250-8251 serial communication controller-The 8237 DMA controller.

UNIT V: APPLICATION AND ADVANCED MICROPROCESSOR ARCHITECTURE

Temperature controller-Traffic controller-stepper Motor control-Digital clock-firing angle control SCR-80186-80286-80386 (Architecture alone)

BOOKS FOR STUDY AND REFERENCE

1) Microprocessor Systems 8086/8088 family, YC Liu and GA Gibson, Prentice-hall of India Private-LDT, New Delhi, 1986.
2) Microprocessor Architecture, Programming and Application with 8085/8080 A.Ramesh, S. Gaonkar, Wiley Easter LTD, New Delhi, 1992.