Subject Code : SII

PAPER – IX : PERIPHERALS AND INTERFACING

Unit –I : Introduction

Basic concepts of Peripherals and interfacing - Tristate devices – Buffer - Decoder – Encoder – Modes of data transfer –Parallel and serial types – Block diagram of I/O interface – interfacing I/O's using decoders.

Unit – II: Bus Interconnections.

Function – Synchronous and asynchronous buses – Protocols – Arbitration – Examples of protocols and arbitration – Synchronous and asynchronous protocols – Memory types – Memory systems.

Unit – III : Peripherals.

Keyboard – Floppy Disk – monitors – Printers – Case studies – CRT controller – Key Board controller – Floppy Disk controller – Mouse – Plotters.

Unit – IV : Interfacing Devices.- I.

Data latches (74LS373) – Key board and display interface to a microprocessor – Stepper motor interface – Printer interface – Transceivers (74LS244, 74LS245) – Decoders (74LS138) (Block Diagram explanations only.)

Unit – V : Interfacing Devices – II.

Programmable peripheral interfaces (PPI) 8255 – Programmable peripheral interrupt controller (PIC) 8259 – Programmable DMA controller 8237 – Serial communication interface 8251.

Books for Study :

1. Microprocessor Architecture, Programming and Applications – Ramesh S.Gaonkar – Wiley Eastern Ltd. (1195).
2. Microprocessor and Microcomputer – B. Ram – Dhanapat Rai & sons – 4th edn.

Books for Reference:

1. Microprocessor Interfacing Techniques – Rodney Zaks – Sybex.
2. Microprocessor System Design Concepts – Alexandridis – Galgotia Publications – 1988.
3. Microprocessor and Digital System – D.V. Hall - McGraw Hill.
4. Microcomputer Interfacing – B.A. Artwick - Prentice Hall Englewood – New Jersey.
5. Computer Architecture and Organization – Hayes.