SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

19ECT221 – MICROPROCESSORS AND MICROCONTROLLERS

II YEAR - IV SEM

UNIT 2 – PERIPHERAL INTERFACING

Interfacing Requirements

➢Microprocessor based system design involves interfacing of the processor with one or more peripheral devices for the purpose of communication with various input and output devices connected to it.

➢ They are also programmable devices. Hence these peripheral devices are found to be of tremendous use to a system designer.

➢Peripheral devices can broadly be classified into two categories.

(a) General purpose peripherals and

(b) Special purpose peripherals (Dedicated function peripherals)

General Purpose Devices

General purpose peripheral devices that perform a task but may be used for interfacing a variety of I/O devices to microprocessor. The general purpose devices are given below:

☐ Simple I/O   --   (Non-programmable)

☐ Programmable peripheral Interface (PPI)   –   (8255)

☐ Programmable Interrupt Controller   –   (8259)

☐ Programmable DMA Controller   –   (8237/8257)

☐ Programmable Communication Interface   –   (8251)

☐ Programmable Interval Timer   –   (8253/8254)

Special Function Devices

Special function peripherals are devices that may be used for interfacing a microprocessor to a specific type of I/O device. These peripherals are more complex and therefore, relatively more expensive than general purpose peripherals.

➢Programmable CRT Controller

➢Programmable Floppy Disc Controller

➢Programmable Hard Disc Controller

➢Programmable Keyboard and display interface.

The functioning of these devices varies depending on the type of I/O device they are controlling.

References

https://www.tutorialspoint.com/microprocessor/microprocessor_io_interfacing_overview.htm

https://www.javatpoint.com/peripheral-devices

Ramesh S.Gaonkar," Microprocessor – Architecture, Programming and Applications with the 8085", Penram International Publisher,7th Ed., 2016