



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:

- | | | |
|--|----|--------------------|
| <input type="checkbox"/> Simple I/O | -- | (Non-programmable) |
| <input type="checkbox"/> Programmable peripheral Interface (PPI) | – | (8255) |
| <input type="checkbox"/> Programmable Interrupt Controller | – | (8259) |
| <input type="checkbox"/> Programmable DMA Controller | – | (8237/8257) |
| <input type="checkbox"/> Programmable Communication Interface | – | (8251) |
| <input type="checkbox"/> 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

Thank You