

Name: Kunal. S. Kharad.

Class: CSAIML - A

Roll no: 33

PRN: 12210272

Assignment: Write a short
Note on Input/
output systems.

Write a short note on Input/Output system.

- i) It manages input/output data within the system.
- ii) It involves communication between CPU and memory.
- iii) It also performs IPU (inter process communication) in ~~ter~~^{ter} peripheral devices assigned with computers.
- iv) The I/O organisation is critical for overall performance and efficiency of computer system.
- v) It also involves specific data transmissions, error checking and converting data formats.

• Key components of I/O organisation:

- i) I/O modules: Acts as an peripheral devices is between peripheral.
- ii) Buses: A bus communication system that transfer data between components.

iii) Controllers adapters: It manages operations of peripheral.

- It also provides capability and compatibility in between standard interfaces like USB or SATA.

Techniques of I/O organisation.

- 1) Interrupt driven I/O: CPU is interrupted when a peripheral device needs attention, allowing the CPU to focus on others tasks.
- 2) memory mapped I/O: uses same address space for I/O both memory and I/O devices, simplifying programming but potentially slowing down memory access due to contention.
- 3) DMA (Direct memory Access): Data transfer between peripheral devices and memory without involving the CPU, enhancing.

- Challenges in I/O operations:

- 1) Concurrency.
- 2) Performance.
- 3) Error handling.
- 4) security and safety.