37 Lecture - CS501

Important Subjective

1. **What is the difference between primary and secondary memory?**
   Answer: Primary memory is the main memory that is directly accessible by the CPU, whereas secondary memory is auxiliary memory that provides additional storage capacity.

   Explain the concept of cache memory.
   Answer: Cache memory is a type of primary memory that is used to store frequently accessed data for faster retrieval by the CPU.

   What is virtual memory and how does it work?
   Answer: Virtual memory is a technique that enables the system to extend the available memory beyond the physical memory of the system. It works by temporarily transferring data from the physical memory to the hard disk when the memory is full.

   What is the role of the memory controller in a memory system?
   Answer: The memory controller is responsible for managing data transfer between the CPU and memory and controlling the flow of data between them.

   What is ROM and how does it differ from RAM?
   Answer: ROM is a type of memory that is non-volatile and retains data even when the power is off. It differs from RAM in that RAM is volatile and only stores data temporarily.

   What is the purpose of secondary memory in a memory system?
   Answer: The purpose of secondary memory is to provide additional storage capacity for the system.

   What is the role of an I/O device in a memory system?
   Answer: The role of an I/O device is to enable communication between the system and external devices.

   What is the difference between cache memory and virtual memory?
   Answer: Cache memory is a type of primary memory that stores frequently accessed data, whereas virtual memory is a technique that extends the available memory beyond the physical memory of the system.

   How does the operating system manage memory in a system?
   Answer: The operating system manages the organization and allocation of memory in a system, ensuring that each process has access to the memory it requires.

   What is the trade-off between memory speed and cost in a memory system?
   Answer: Generally, faster memory is more expensive than slower memory, so there is a trade-off between memory speed and cost in a memory system.