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Q1) Define an OS? Explain its role in the computer system.

Answer → Operating system is an user interface between the user and the hardware and enables the interaction of computer's hardware and software. An operating system is a software which perform tasks like, file magament, storage, process, handling input and output. An OS act's like an mastermind performing multitude of operation.

Roles of OS:

① Device management: It keeps track of all devices, Decides which process gets the device when and for how much time., Deallocates devices.

② file management: OS allocates and deallocates resources. It regulates which process get the file and for what duration.

Q2) What are interrupts? Explain the working of an interrupt and the interrupt vector?

Answer → The interrupt is a signal emmited by hardware or software when process or an event needs immediate attention. It alerts the processar to a high priority process requiring interuption of the current working progress
In I/O devices one of the control lines is dedicated for this purpose. and

Interrupt vector: An interrupt vector is an memorey location of an interrupt handler, or from a program with the computer, that tells the os to stop and decides what to do next. when an interrupt is generated, os saves its execution state by means of a context switch, a procedure that a computer processor follows to change from one task to another.

Q3/ Discuss the storage structure of a computer system in details.

Answer :→ There are 2 types of storage devices, volatile storage device and non volatile storage devices.

Storage devices consist of registers, cache, main memory, electronic-Disk, magnetic disk, Optical-Disk, Magnetic-Tapes. Each storage system provides the basic system of storing a datum and of holding the datum until he is retrieved at a later time. All the storage device differ in speed, cost, size, volatility. The most common secondary-storage device is a magnetic-Disk, which provides storage for both programs and data.

The storage systems above the electronic disk are volatile, whose those are below are non-volatile.

Q4) What are the different service's that operating systems provide.

Answer → • **Program execution :** To execute a program, several task's need to be performed. Both instruction and data must be loaded into main memory.

• **Program Creation :** The os offers that structure and tools, including editors and debuggers, to help the program create.

• **Accounting :** An os collects utilization of data records for numerous assets and tracks the overall performance parametre and responsive time to enhance overall performanc

• **Security and Protection :** Operating devices affords safety to the statistics and pakages of a person and protects interference from unauthorized users.