

Section - 4

Ans 1 An operating system (OS) is a software which acts as an interface b/w the end user and computer hardware. Every computer must have at least one OS to run other programs. An application like chrome, MS word, games, etc needs some environment in which it will run and perform its task. The OS helps you to communicate with the computer without knowing how to speak the computer's language. It is not possible for the user to use any computer or mobile device without having an operating system.

Function of an operating system.

- **Process Management** :- Process management helps OS to create and delete processes. It also provides mechanisms for synchronization and communication among processes.
- **Memory Management** :- Memory management module performs the task of allocation and de-allocation of memory space to programs in need of this resource.
- **File Management** :- It manages all the file-related activities such as organization, storage, retrieval, naming, sharing

and protection of files.

- **Device Management** - Device management keeps track of all devices. This module also responsible for this task is known as the I/O Controller. It also handles the task of allocation and de-allocation of the devices.
- **I/O system management** - one of the main objects of any OS is to hide the peculiarities of that hardware devices from the user.
- **Secondary - Storage Management** - Systems have several levels of storage and includes Primary Storage, Secondary Storage and Cache Storage. Instructions and data must be stored in Primary Storage or Cache so that a running program can reference it.
- **Security** - Security module protects the data and information of a computer system against malware threat and unauthorized access.
- **Command interpretation** - This module is interpreting commands given by

the and acting system resources to
process that commands.

- Networking: A distributed system is a group of processors which is not share memory, hardware devices, or a disk. The processors communicate with one another through the network.
- Job accounting: Keeping track of time & resources used by various jobs and users.
- Communication management: Coordination and assignment of compilers, interpreters and another software resources of the various users of the computer system.

Types of operating systems.

- Batch operating systems.
- Multiprogramming / Time Sharing OS
- Multi Processing OS
- Real Time OS
- Distributed OS
- Network OS
- Mobile OS