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INFORMATION TECHNOLOGY FOR CLASS 11

(Study materials based on N.C.E.R.T)

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DATE:-03.09.2020(THURSDAY)

## **COMPUTER ORGANIZATION & OPERATING SYSTEM**

### **Functions of an Operating System:**

#### **The prime functions of an operating system as categorized:**

- **Communication Management**
- **Resource Management**
- **Process management**
- **File management**
- **Memory management**

1. **Memory Management:-** Memory management process to be executed, It has to be loaded in the working memory that is the RAM(Random Access Memory.) The memory management component of an operating system allocates memory to the processes in a dynamic manner that is allocated on demand and released when no needed.
2. **File management:-** Operating system takes care of all the files and folders(directories) maintained on the computer disk. The basic task that a user needs to perform on files is creation, renaming, deletion, copying or moving of a file or folder. All the files stored in a computer system can be located through the file system. Two main types of file system are File Allocation table (FAT) or New Technology File system (NTFS).

#### **Types of operating system**

Operating system can be classified in different ways. Depend on various parameters.

- ❖ **Single-tasking and Multi-tasking:-** Single tasking operating systems allow execution of only a single program at any given input, when Multi-tasking as the name suggest, multi-tasking operating system can execute more than one programs simultaneously. The processor time, in this case, is divided amongst various processes.
- ❖ **Single user and multi-user:-** single-user operating system allows only one user to use the system. The desktop systems can be classified as typical single user systems, when

multi user operating system allows many users to access the system by maintaining an account of all the registered users.

- ❖ **Real time operating system:-** Real time operating system which ensure that the response time is fixed are categorized as real time operating system. They are intended for applications where data needs to be processed quickly, without any significant delays. For example, an anti-aircraft missile system must fire as soon as it receives signal from the enemy aircraft, before it leaves the bomb and fires away.
- ❖ **Batch processing systems:** In a batch processing systems, similar jobs are clubbed together and submitted as a block to the processor for execution. User intervention is minimal in such systems. The jobs are picked up one by one and executed.

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03.09.20XX