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CAE-1 OS

⑥ The following are the system components:-

① Main Memory Management

→ Refers to management of Primary / main memory.

→ Main Memory provides a fast storage.

② Processor Management:-

→ The OS decides which process gets the processor when and for how much time.

→ keeps tracks of ~~proc~~ processor and status

③ File Management

→ The file is normally organized into directories for ~~eas~~ easy navigation and usage.

→ keeps tracks of information, location, uses, status etc. the collective facilities are often often known as file system.

④ Device Management.

→ An OS manages device communication via their respective drivers.

→ → Keeps tracks of all ~~devices~~ devices. Program responsible for this task.

→ Allocates the device in efficient way

(v) I/O system management

→ A general device-driver interface

→ Drivers for specific hardware devices

(vi) Secondary Storage Management:-

→ The main purpose of a computer system is to execute programs.

→ Systems have several levels of storage.

→ Free space management

→ Storage allocation

(vii) Networking

→ Computation speed-up

→ Enhanced reliability

(viii) Protection System:

→ If a Computer System has multiple users and allows the concurrent execution of multiple processes.

→ Distinguish b/w authorised / unauthorised usage.

(iv) Command Interpreter System

→ One of the important system programs for an OS.

→ It is an interface of the OS with the user.

→ Process creation and management.

→ I/O handling.

→ File System access.

(8)

	Long term scheduler	Short - term Scheduler	Medium-term scheduler
(i)	Job scheduler	CPU scheduler	Process swapping scheduler
(ii)	Speed is less than short term scheduler	Speed is fastest among other two	Speed is b/w both short & long term scheduler
(iii)	It is almost absent or minimal in time sharing system.	also minimal in time sharing system.	Part of time sharing systems
(iv)	Controls the degree of multiprogramming	Provides less control over degree of multiprogramming	Reduces the degree of multiprogramming

(v) Select process from pool and loads them into memory for execution	~~Set~~ Select those processes which are ready to execute	It can re-introduce the process into memory and execution can be continued.

PART-A

(1) It provides the services of the OS to the user program via an API. It also provides an interface b/w a process and OS.

(2)

	User Level Thread	Kernel Level Thread
(i)	Implemented by users.	Implemented by OS.
(ii)	Context Switch is less	More Context Switch time
(iii)	Not recognized by OS.	It is recognized by OS.

(3) DMA contains a control unit to deal with the control functions during DMA operations such as read, write and interrupt.

(4) Context switch is the process of storing the state of a process / thread, so that it can be restored and resume execution at later point of time.

(5) Scheduling deals with the problem of deciding which of the processes in the ready queue is to be allocated the CPU.
The following are the criteria's.

(i) CPU Utilization

(ii) Throughput

(iii) Turnaround time

(iv) Waiting time

(v) Response time.