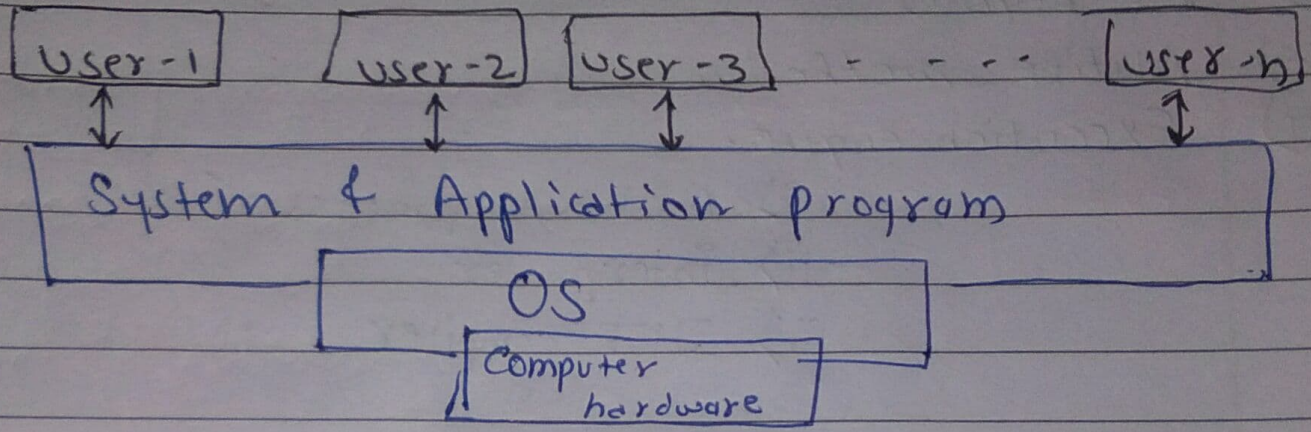
Serial No.	Date	Title



(b) Kernel – The Operating System is the one program running at all time on the computer usually called "Kernel".

(c) Resource Management – It is the process of pre-planning, scheduling & allocating your resources to maximize effectively.

(d)

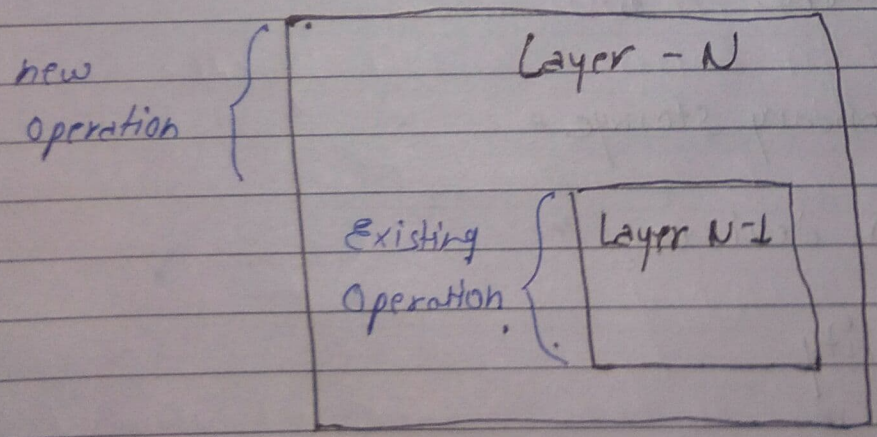
User space	Kernel space
* It contains process code, data & memory mapped files.	* It contains Kernel code, data, structures identical to all process.

Monolithic Kernel	microkernel System
A type of kernel in OS where the entire OS works in the Kernel space	* A kernel type that provides mechanism such as low level address space management to impliment in OS.
Fast	* slow
Larger insize	* smaller insize.

[SECTION-B]

[Answer-2 (a)]

Layered structure of OS - One way to achieve modularity in the OS is the layered approach. In this the bottom layer is the hardware & the topmost layer is the user interface.
Ex- MSDOS, UNIX



The main advantages of the layered approach is Simplicity of construction & Debbugging.

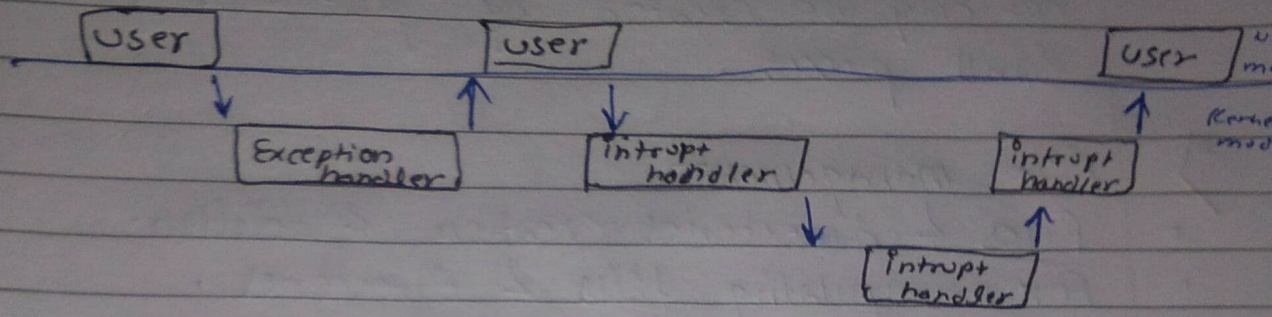
(b) Services Given by OS

* In Operating System provides many more Services for effective & efficient way to handle any problem arise in Operating System.

• A list of Services Given by OS.

i) Memory management
ii) Process Management
iii) file Management
iv) Processor "
v) Device "
vi) Resource "
vii) Network "
viii) Secondary storage "
ix) I/O devices "
x) Security
xi) Program execution.

Reentrant Kernel - It enables processes to give away the CPU while in kernel mode. They do not hinder other processes from also entering kernel mode.
Ex - The case is a disk read



Need of OS in our Computer

An OS is the most important software that runs on a computer.

It is manage the memory & process of comp as well as all of its software and hardware.

it also allow you to communicate with the computer without knowing how to speak computers language.

without an OS a computer is useless.

i) File management:
- Files & directories creation & deletion.
- For manupulating files & directories.
- mapping files onto secondary storage.
- Back up file.

ii) Process Management -
- process creation & deletion
- Suspension & resumption
- Synchronization process
- Communication process.

iii) I/O Device Management.
- It offer buffer caching system.

iv) Network management

v) main memory management

- It helps to keep track of primary memory.

vi) Security Management
check ability to read write, delete files.

vii) Secondary Storage Management

- Storage allocation
- Free space management

[Answer - 3 part 2]

Real Time Operating System

* Thm time of OS Serve real time systems.
* The time interval require to process & responds to inputs is very small.
* It are used when there are time requirements that are very strict like
  - → missile System
  - → Robot
  - → Air traffic control system

Types of Real time OS - Two Types of RTOS.

i) Hard Real time operating system.
ii) Soft " " " "

i) Hard Real time OS - Thm are meant for application where time constraints are very strict & even shortest possible delay are not acceptable.
Ex- Automatic Parachutes

ii) Soft Real time OS - Thm OS are for application where for time constraint is less strict.
Ex- Scientific Experiments, weapon system.