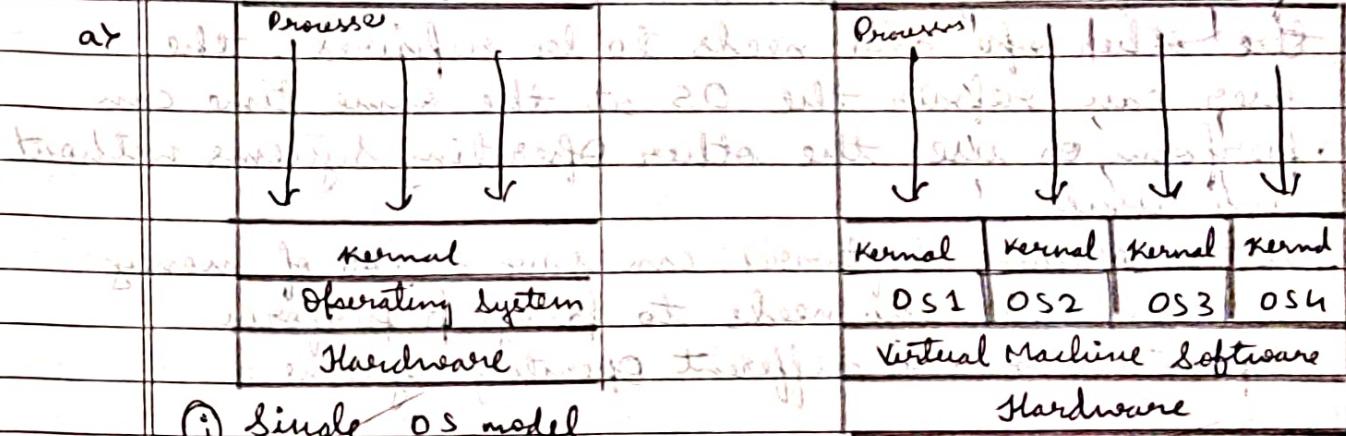


2C303 14

D D M M Y Y Y Y

Module 1

2. ~~Identify the main idea in writing or from a~~



i) Single OS model

-ii) Virtual Machine Model

A Virtual Machine is a software which creates a helping environment for running different operating systems for the same hardware.

Benefits of using Virtual Machine are:

- * Different operating systems can be used, by this the user can use different specified softwares on the same system or computer, by which the user can save money of buying a new computer.
 - * Using virtual machine software user can process two different tasks in different operating systems on the same computer by dividing the usage of processor, due to this the CPU can be completely utilized.
 - * The information can be shared between two the operating systems easily, by this the operator user can perform some data process on data and then the same data can be sent and processed in the other OS.
 - * The virtual machine software protects operating systems from each other, if virus is infected into a operating system, the other operating system can be used without

any issues.

- * If an operating system is broken down or crashed, the other safe and needs to be repaired, the user can repair the OS at the same time can perform or use the other operating systems without any issues.
 - * Virtual Machine software can save a lot of money for the user who needs to perform operations in two different operating systems.

b) System Calls - are the various processes that are required for calling a certain type of processes done by the processor, using this a certain type of process is called from or to the processor.

Types of system calls are:

i) Process Control: ~~that function was not included~~

end, abort, set and cancel thread + job, *
load, execute as well as the other all and can
get process registers, set process registers from os context, *
start process, end process, it can interact with
wait for time, wait for event, wait for file, *
wait event, signal event

ii) **Data File Management System:** It performs all the operations on files like get file, open file, close file, read, write, open, close, set file registers, read, write, reposition, read, write.

D D M M Y Y Y Y

iii) Information management system:

- get information register, set information register
- get file, data or directories
- set file, data or directories.

iv) Communication : send message, receive message
request message, answer message
information share between

v) Protection F 13 3 4 5 2 1 0

vii) ~~Data Device~~ Time Management System:

- get time, set time
- read, write, reposition
- get ~~time~~ ^{device} registers, set ~~time~~ ^{device} registers
- request ~~device~~ ^{anels}, get access

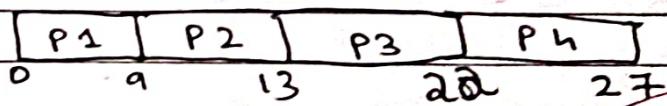
Module 2

h. 242 13.20

a.	Process	Arrival Time	Burst Time	Priority
	P 1	0	9	3
	P 2	1	4	2
	P 3	2	5	1
	P 4	3	5	4

FCFS

Gantt chart

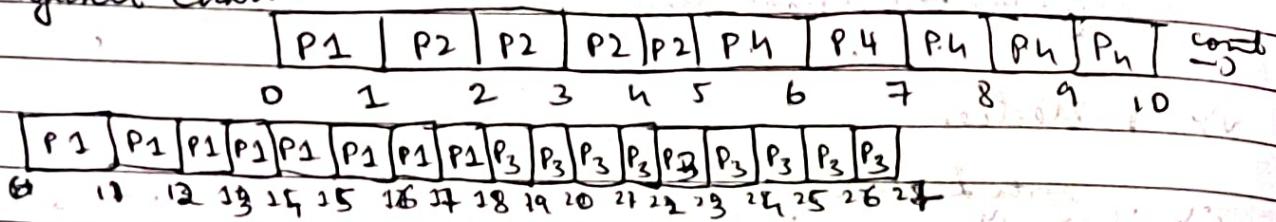


D	D	M	M	Y	Y	Y	Y

	Waiting Time	Turnaround Time	Completion Time
P1	0	9	9
P2	8	12	13
P3	12	20	22
P4.	19	24	27
Avg:	9.5	16.25	

SRTF:

Gantt Chart:



	Completion Time	Turnaround Time	Waiting Time
P1	18	18	9
P2	5	4	0
P3	27	25	16
P4	10	7	2
Avg	13.50	6.75	

RR: (q = 2 ms)

Process	Arrival Time	Burst Time
P01	0	9 X 2 = 18
P2	1	4 X 2 = 8
P3	2	9 X 2 = 18
P4.	3	5 X 2 = 10



D	D	M	M	Y	Y	Y	Y
---	---	---	---	---	---	---	---

Ready Queue:-

P1	P2	P2	P2	P4	P2	P3	P1	Pn	P3	P2	Pn	P3	P2	P3
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Yantt Chart:-

P1	P2	P3	P2	Pn	P2	P3	P2	Pn	P3	P2	Pn	P3	P2	P3
0	2	4	6	8	10	12	14	16	18	20	22	24	26	27

Completion Time Turn around Time Waiting Time

P1	26	26	26
P2	12	11	7
P3	27	25	16
P4	23	20	15
Avg.	20.5	13.75	

Priority:-

Yantt Chart

P1	P2	P3	P2	P2	P2	P2	P3							
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Pn	Pn	Pn	Pn	P4
23	24	25	26	27

Completion Time Turn around Time Waiting Time

P1	22	22	13
P2	14	13	9
P3	11	10	0
P4	27	24	19
Avg	22	10.25	



b>

Process

- i> Each Process has its own ^{memory} address Thread has user-the same process address of the process.
- ii> Process acts independent to each other Threads & can defend on each other if they are working for same process.
- iii> Process cannot easily share or receive data due to change in memory address Threads can share data due to same memory address if they are working for same process.
- iv> Process is the operation done due to in processing an information Thread is present in process and is basic unit of execution.

1. c> new X

2. a> when process is scheduled to run after some execution

3. b> communication between two processes X

4. b> program counter X

5. b> BS X

BS	MPU	MMU	Memory
ED	ES	ED	ED
BP	CS	ED	ED
IO	CODE	ED	ED
DP	DS	ED	ED
TRON	SS	ED	ED