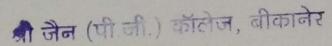
## Shri Jain P G College, Bikaner

Total No. of Questions: 11]

[ Total No. of Printed Pages: 3



## **BPP-1093**

# M.Sc. (Previous) Examination, 2022 COMPUTER SCIENCE

MCS-104

### (Operating Systems)

Time: 3 Hours]

[ Maximum Marks: 50

Section-A

(Marks :  $2 \times 10 = 20$ )

Note: Answer all ten questions (Answer limit 50 words). Each question carries 2 marks.

Section-B

(Marks:  $3 \times 5 = 15$ )

Note: Answer all *five* questions. Each question has internal choice (Answer limit 200 words). Each question carries 3 marks.

Section-C

(Marks:  $5 \times 3 = 15$ )

Note: Answer any three questions out of five (Answer limit 500 words). Each question carries 5 marks.

#### Section-A

- 1. (i) What do you mean by Context Switch?
  - (ii) Explain Process States.
  - (iii) What do you mean by Pre-emptive Scheduling?

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(iv)	Explain Throughput.		
(v)	What do you mean by Critical Section Problem?		
(vi)	What do you mean by Avoidance ?		
(vii)	Explain Virtual Memory.		
(viii)	What do you mean by Directory Structure in Linux?		
(ix)	Explain different file permissions used in Linux.		
(x)	What is the use of pwd command in Linux?		
	Section-B		
What	t do you mean by Threads? Explain with suitable example.		
	Or		
Wha	t is Process Scheduling? Explain types of schedulers.		
Explain SJF with suitable example.			
	Or		
Explain Round Robin Scheduling with suitable example.			
Explain Banker's Algorithm with example.			
	Or		
What is Semaphores ? Write simple solution to Readers - Writers problem.			
What do you mean by Shell and Kernel in Linux? Explain the features of Linux.			
	Or		
Expl	ain physical and virtual address space with suitable example.		
Writ	e a shell script to print the reverse of given input number.		
	Or		
Explain the following commands with syntax and example:			
(a)	man		
(b)	uname		
(c)	chmod		
	VALUE V		

2.

3.

4.

5.

6.

### Section-C

- 7. What is Operating System? Explain distributed system and real time system. Describe any two functions of operating system.
- 8. Calculate average waiting time in shortest job first (SJF) and priority scheduling algorithm as given scenario:

Process	Burst Time (ms)	Priority
P1	7	2
P2	5	3
P3	3	4
P4	6	1

- What is Deadlock? Explain its prevention technique. How recovery from deadlock performed? Explain.
- 10. What do you mean by Paging? Explain LRU page replacement algorithm with example.
- 11. Explain different loop structure supported by linux? Explain with suitable examples.

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