

SIC No.-

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Duration: 01:30

Total No. of Pages:-01

Full Marks: 25

1 Answer All

- a Differentiate between Application software and system software. 1
- b Explain in brief real time operating system and its types. 1
- c Differentiate between multiprocessing and distributed operating system. 1
- d Differentiate between User thread and Kernel thread. 1
- e What are System calls? 1
- f Justify why context switching is an overhead for an OS. 1

2 Answer All

- a What is the purpose of System Calls in an Operating System? 3
- b Discuss the concept of Inter Process Communication (IPC). 3
- c Consider the following set of jobs. What would be the average turnaround time if FCFS scheduling policy is used? Show the Gantt chart and all calculations. 3

Process Arrival Time Duration		
A	0	12
B	3	7
C	6	2
D	8	5
E	9	2
F	12	12

3 Answer any One

- a What is an operating system? Explain the different services provided by an operating system. 5
- b Discuss about some major responsibilities of operating system. 5

4 Answer any One

- a Consider the following set of processes with the arrival time and length of CPU burst time is given in ms. 5

Process Arrival Time Burst Time		
P1	0	18
P2	2	2
P3	3	5
P4	1	3

Find the average waiting and turnaround time for FCFS, SJF, SRTF, and RR (time slice 3ms) scheduling algorithms.

- b What is a thread? How it is different from a process. How it is advantageous? Compare between the single threaded system and multithreaded system. 5