

Prob. Suppose that the given ahead processes arrive for execution at time indicated-

Process	Arrival Time	Burst Time
P1	0.0	8
P2	0.4	4
P3	1.0	1

Calculate average turnaround time, average waiting time and throughput-

(i) FCFS

(ii) SRTF

(iii) Non-Preemptive SJF

Ans.

SRTF: Shortest remaining time first,

✓ SRTF \Rightarrow Shortest remaining time first

P ₁	P ₂	P ₃	P ₂	P ₁	
0	0.4	1	2	5.4	13

Gantt Chart

waiting time \Rightarrow

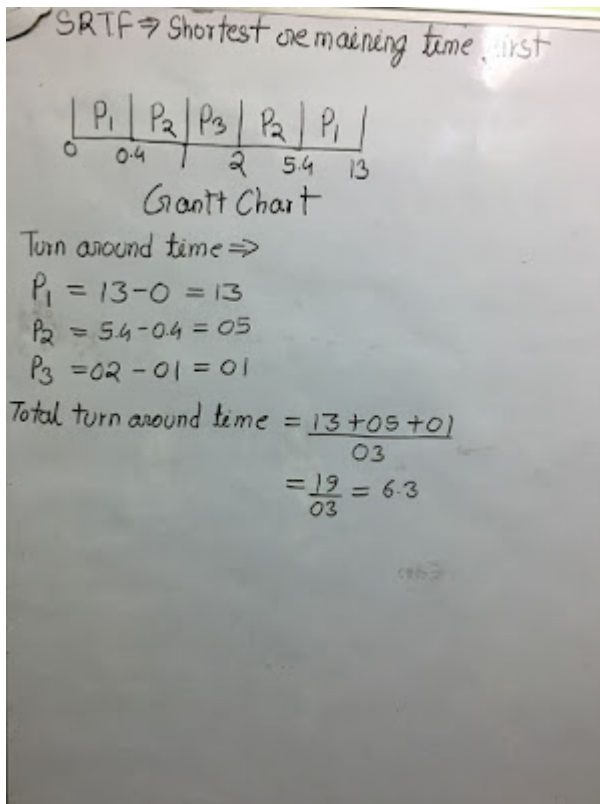
$$P_1 = (0-0) + (5.4-0.4) = 0.5$$

$$P_2 = (0.4-0.4) + (2-1) = 0.1$$

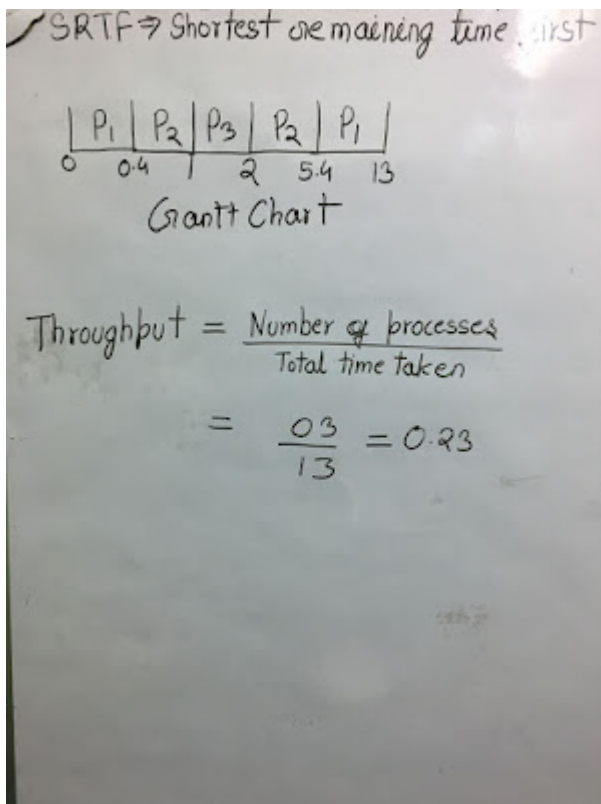
$$P_3 = (1-1) = 0$$

$$\text{Average waiting time} = \frac{0.5 + 0.1 + 0}{3} = 0.2$$

SRTF: Average waiting time



SRTF: Total turn around time



SRTF: Throughput

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13. LRU page replacement algorithms
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57. Multiple Processor Scheduling
58. What do you mean by Virtual Memory? Write down its advantages?
59. Compare Paging and Segmentation?
60. What is Process Scheduling, CPU Scheduling, Disk Scheduling? Explain Short, Medium and Long term Scheduler?
61. Explain concept of a process with its components ?

62. Explain the following in brief Contiguous and Linked list allocation for implementing file system?
63. Explain various Disk scheduling algorithms with Illustrations ?
64. Define process and thread. What is PCB ? Explain its various entries with their usefulness ?
65. Discuss advantages and disadvantages of the Buffer cache ?
66. Explain different types of OS with examples of each ?
67. What is an Operating System? Write down its desirable characteristics ?
68. Define a deadlock ? Write down the conditions responsible for deadlock? How can we recover from deadlock ?
69. What are the various services provided by Operating system ?
70. What do you mean by PCB? Where is it used? What are its contents? Explain.
71. What is Binary and Counting semaphores ?
72. What is File? What are the different File attribute and operations?
73. What are System call? Explain briefly about various types of system call provided by an Operating System?
74. Describe necessary conditions for deadlocks situation to arise.
75. What are points to be consider in file system design? Explain linked list allocation in detail?
76. Write a Semaphore solution for dining Philosopher's problem?
77. Consider the following page reference string:1,2,3,4,5,3,4,1,2,7,8,7,8,9,7,8,9,5,4,5.
How many page faults would occur for the following replacement algorithm, assuming four frames:a) FIFO b) LRU
78. Explain CPU schedulers in operating system?
79. Write the different state of a process with the help of Process state deagram?
80. What is Mutex in operating system?
81. Explain Network operating system?

82. What do you mean by paging in operating system ?