

27/6/22

(Morning)

Exam.Code:0916
Sub. Code: 6783

2062

B.E. (Computer Science and Engineering)
Fourth Semester
CS-403: Operating System

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 (Section-A) which is compulsory and selecting two questions each from section B.-C.

x-x-x

Section A

Q1).

- What are scheduler and dispatcher?
- Compare tightly and loosely coupled systems.
- What are the components in PCB?
- How page fault is handled?
- Explain features of UNIX operating system.

(5*2=10)

Section B

Q2) Consider the following set of processes with their arrival and burst times given as:

Process	Arrival Time	Burst Time
P1	0	10
P2	0	05
P3	1	02
P4	2	01

Calculate average waiting and turnaround time for SJF and FCFS scheduling algorithms. (10)

- Q3) a) What are the system calls? How they are handled in operating system? (5)
b) What is job scheduling and CPU scheduling. (5)

Q4) What are the concurrent processes? What are the various conditions for deadlock detection? Explain deadlock recovery techniques. (2+4+4)

Section C

Q5) a) What is the purpose of paging? Consider the following page reference string for a memory with three frames.

1, 2, 3, 4, 1, 2, 5, 1, 2, 3, 4, 5

What are the number of page faults for the LRU and FIFO algorithms? (5)

b) Write a shell script to calculate factorial of a given number. (5)

Q6) a) What is the significance of disk scheduling? Differentiate SCAN and C-SCAN algorithms with one example. (5)

b) Explain the major activities of operating system in context of memory management. (5)

Q7) Write note on the following:

(2.5*4=10)

- Ms-DOS v/s UNIX
- Real time operating systems
- Virtual memory
- Demand paging

x-x-x