



P-3770

Third Year B. C. A. (Sem. V) (CBCS) Examination
March/April – 2014
Operating System - II

Time : 3 Hours]

[Total Marks : 70

Instructions :

(1)

नीचे दशांशवेष निशानीवाणी विगतो उत्तरवही पर अवश्य लभवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
← Third Year B. C. A. (Sem. V) (CBCS)	<input type="text"/>
Name of the Subject :	<input type="text"/>
← Operating System - II	<input type="text"/>
← Subject Code No. : <input type="text" value="3"/> <input type="text" value="7"/> <input type="text" value="7"/> <input type="text" value="0"/>	← Section No. (1, 2.....) : <input type="text" value="Nil"/>
	Student's Signature

- (2) Figures on right indicate marks.
(3) Do not interchange option.

1 Answer in short.

14

- (1) What is compaction ? Why it is required ?
- (2) Define turnaround & throughput time.
- (3) Define preemptive & non-preemptive scheduling.
- (4) Give the difference between starvation & Deadlock.
- (5) What do you mean by cooperating processes ?
- (6) Define principle of Locality.
- (7) What is the difference between deadlock prevention and deadlock avoidance ?

2 Do as Directed.

14

- (a) Explain paging with segmentation in detail.
- (b) Why we required structured page table ? Explain Hierarchical Page Table in detail.

OR

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[Contd...

(b) Write a note on critical region problem. Discuss Paterson's algorithm.

3 Write short note (Any Two). 14

- (a) Demand paging.
- (b) Tree level directory structure.
- (c) Static partitioning Scheme.

4 Do as directed. 14

(a) Consider the following table : 7

Process	Arrival Time(ms)	CPU burst(ms)
P1	1	7
P2	2	3
P3	3	1
P4	4	4
P5	5	5

(i) Draw three time line (Gantt) charts illustrating the execution of these processes using SJF, SRT, RR (quantum = 2) scheduling.

(ii) What is the turnaround time & waiting time of each process for each of the scheduling algorithms ?

(b) Consider the reference string given below : 7

2 3 1 2 4 6 0 2 6 3 2 9 8 3 6 2 3 2

How many page faults will occur for the following replacement?

Consider the memory is empty initially and having 4 frames.

(i) Least recently used page replacement algorithm.

(ii) FIFO page replacement algorithm.

5 Do as directed. (Any Two)

14

- (1) Explain any two methods for file access control verification.
- (2) List four necessary conditions to occur deadlock. Explain how you can prevent deadlock by breaking any one ?
- (3) Explain Address binding in detail.
