

III B.Tech II Semester Regular/Supplementary Examinations, May 2010
Operating Systems
Computer Science And Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Explain the following terms:

(a) First fit.

(b) Best fit.

(c) Worst fit.

(d) Fixed partitioning.

[4+4+4+4]

2. (a) Discuss the objectives for a file management system.

(b) Illustrate with a neat diagram about the various elements of a file management system.

(c) What do you understand by a file directory?

[4+8+4]

3. (a) Explain the role of process control block in operating systems.

(b) Explain the general structure of operating system control tables with an example.

[8+8]

4. Discuss about synchronization provided in windows OS?

[16]

5. Consider the following snapshot of a system:

Processes	Allocation	Max	Available
	A B CD	A B CD	A B CD
P0	0 0 1 2	0 0 1 2	2 1 0 0
P1	2 0 0 0	2 7 5 0	
P2	0 0 3 4	6 6 5 6	
P3	2 3 4 5	4 3 5 6	
P4	0 3 3 2	0 6 5 2	

Answer the following questions using the banker's algorithm:

(a) What is the content of the matrix Need?

(b) Is the system in a safe state? Why?

(c) Is the system currently deadlocked? Why or why not?

(d) Which process, if any, or may become deadlocked if this whole request is granted immediately?

[4+4+4+4]

6. What are the various RAID levels? Explain them briefly.

[16]

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Set No. 3

7. (a) How does the principle of least privilege aid in the creation of protection systems? Explain.
- (b) How can systems that implement the principle of least privilege still have protection failures that lead to security violations? Explain. [8+8]
8. How does the distinction between monitor mode and user mode functions as a rudimentary form of protection system. [16]
