

III B.Tech I Semester Supplementary Examinations, October 2006
COMPUTER OPERATING SYSTEMS
(Electronics & Control Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain the following operating systems in brief.
 - i. Time sharing OS
 - ii. Real time OS
 (b) Is the directed access method suitable for linked allocation scheme? Discuss. [8+8]
2. (a) Differentiate Tree directory system and acyclic graph directories.
 (b) Explain file protection using Access lists and groups. [8+8]
3. What is semaphore? Explain the solution of bounded buffer producer consumer problem? [8+8]
4. Consider the following snapshot of a system. [16]

Process	Current Allocation				Maximum Demand				Available			
	A	B	C	D	A	B	C	D	A	B	C	D
P_0	0	0	1	2	0	0	1	2	2	1	0	0
P_1	2	0	0	0	2	7	5	0				
P_2	0	0	3	4	6	6	5	6				
P_3	2	2	5	4	4	3	5	6				
P_4	0	3	3	2	6	6	5	2				

5. (a) Is the system in a safe state?
 (b) If a request from P3 arrives for (0,1,0,0) can the request be granted immediately. [8+8]
6. (a) What is the need for swapping?
 (b) Given the following reference string
 1 2 3 4 2 1 5 6 2 1 2 3 7 6 3 2 1 2 3 6
 Assume 3 frames and initially all frames are empty. Calculate No of page faults for
 LRV and optimal page replacement algorithms. [6+10]
7. (a) Explain about monitors.
 (b) Give solution to critical solution problems using hardware instructions. [6+10]

8. Write notes on:

- (a) Protection and security
- (b) Resident monitor

[8+8]

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