

## (REVISED COURSE)

( 3 Hours)

[ Total Marks : 100

- N.B.(1) Question No. 1 is compulsory.  
 (2) Solve any **four** questions from remaining questions.  
 (3) Illustrate answer with sketches wherever **required**.

1. (a) Consider the following snap shot of a system :

10

	Allocation	Max	Available
	A B C D	A B C D	A B C D
P <sub>0</sub>	0 0 1 2	0 0 1 2	1 5 2 0
P <sub>1</sub>	1 0 0 0	1 7 5 0	
P <sub>2</sub>	1 3 5 4	2 3 5 6	
P <sub>3</sub>	0 6 3 2	0 6 5 2	
P <sub>4</sub>	0 0 1 4	0 6 5 6	

Answer the following question using banker algorithm :

- (i) What is the content of matrix need ?
  - (ii) Is system in a safe state ?
  - (iii) If request from process P<sub>1</sub> arrive for (0 4 2 0) can request be granted immediately ?
- (b) Explain the function of memory manager. Explain paging with suitable example. 10
2. (a) Explain in details reasons for process creation and process termination. 10  
 (b) Explain various I/O buffering technique. 10
3. (a) Explain various scheduling criteria. Brief about priority scheduling. 10  
 (b) Explain file management method in window-2000. 10
4. (a) Explain file allocation methods in details. 10  
 (b) Draw and explain layered structure of windows NT. 10
5. (a) Explain unix concurrency control method. 10  
 (b) Describe in brief about the operating system policies for virtual memory. 10
6. Write a short notes on : 20
- (a) File access method
  - (b) Segmentation
  - (c) Disk scheduling algorithms (any two)
  - (d) File directories.