

B.Tech Degree VI Semester Examination April 2011

CS/IT 603 OPERATING SYSTEMS (2006 Scheme)

Time : 3 Hours

Maximum Marks : 100

PART - A (Answer ALL questions)

(8 x 5 = 40)

- I. (a) Define operating system. What are the objectives and functions of operating system?
(b) Explain *five* state process models with a neat diagram.
(c) Differentiate fixed size and variable size partitioning in multiprogramming.
(d) Give a short note on virtual memory.
(e) Explain different functions of file management.
(f) List out and explain three techniques for performing I/O Operation.
(g) Define deadlock and what are the conditions for deadlock occurrence.
(h) Explain Banker's Algorithm.

PART – B

(4 x 15 = 60)

- II. List and explain any three methods for process scheduling. (15)
- OR**
- III. What is message passing? Explain how semaphores are used in solving reader's writer's problem. (15)
- IV. Differentiate between paging and segmentation. What are the uses of TLB? (15)
- OR**
- V. Explain the following terms with respect to memory management :
(i) Bitmaps
(ii) Linked list
(iii) Buddy system (3 x 5 = 15)
- VI. (a) Explain DMA with neat diagram. (8)
(b) Describe I/O buffering. (7)
- OR**
- VII. What are the different disk scheduling policies? Explain. (15)
- VIII. (a) Discuss about Deadlock Detection and Recovery. (10)
(b) Define safe and unsafe state in Deadlock. (5)
- OR**
- IX. (a) Explain two phase locking. (5)
(b) By using Dining philosopher's problem show that it is free from deadlock and starvation. (10)