Seventh Semester BTech degree Examination
(2013 Scheme)
13.706.2 MODERN OPERATING SYSTEMS (E)

Time: 3 Hours   Max Marks : 100

Part A
Answer *ALL* questions

1. What are the goals of operating system?
2. What is a process? Explain state diagram briefly.
3. What is a file? List different access methods of file?
4. What is meant by virtual memory management?
5. Define thread.
6. Explain RAID.
7. Explain trashing.
8. Differentiate internal fragmentation and external fragmentation.
9. Explain the need for disk arm scheduling in I/O
10. Explain Belady's anomaly.

(10 x 2 = 20 Marks)

Part B
Answer any one full question from each module

Module I

11. a. Explain the structure of an operating system with 1) layered approach and 2) micro kernel
                                                                            10 Marks
    b. Explain Round Robin scheduling algorithm   10 marks

OR

12. a. What is a system call? Discuss how a system call is handled with the help of an example.
                                                                            8 Marks
    b. Describe the allocation algorithms first fit, best fit and worst fit   12 Marks

Module II

13. a. Define dead lock. What are the methods adopted to recover from the deadlock?   10marks
    b. Explain race condition   10 Marks

OR

14. a. What are semaphore? Explain their use and implementation details.   12 marks
    b. Explain Banker's algorithm   8 Marks

Module III

15. a. Explain the page replacement algorithms   14 Marks
     b. What are the characteristics of multiprogramming   6 Marks

<div align="center">OR</div>

16. a. Explain swapping and paging   14 Marks
     b. Write the structure of a page table.   6 Marks

<div align="center">Module IV</div>

17. a. Describe different types of directory systems in I/O   15 Marks
     b. What are the different allocation methods used in file system?   5 Marks

<div align="center">OR</div>

18. a. What are the functions of device drivers in I/O   8 Marks
     b .Write short notes on 1) Direct memory access 2) Memory mapped I/O 3)Interrupts
                                        12 Marks