1124

BCA / D-12
OPERATING SYSTEM
Paper-BCA-352

Time allowed: 3 hours   Maximum marks: 90

Note: First question is compulsory. A candidate will be required to answer **five** questions in
All, selecting **one** question from each unit in addition to compulsory question .All
Questions carry equal marks.

(Compulsory question)

1. (a) What is kernel? Write name of any four operating system software.
  (b) What is process state and mention the various states of a process?
  (c) Define starvation. How its differs from deadlock? Explain.
  (d) What is internal and external fragmentation? Explain.
  (e) Write short note on paging and segmentation.
  (f) Write short note on file protection mechanisms.   18

Unit-I
2. Define operating system. What services are provided by an operating system to its users?
Explain different types of operating system.   18
3. (a) Explain historic evolution of operating systems.   9
  (b) Define system call. What are five major categories of system calls? Give examples
      under each category and explain them.   9

Unit-II
4. Explain various CPU scheduling algorithms. Give example of each.   18
5. Define deadlock. Explain the necessary conditions for a deadlock to occur. Discuss various
deadlock prevention and avoidance techniques.   18

Unit-III
6. Explain various page replacement techniques with example.   18
7. How concurrent process differs from sequential process? State the critical section problem.
What requirements must a solution to the critical section problem satisfy?   18

Unit-IV
8. Define disk scheduling. Explain various types of disk scheduling algorithms with examples. 18
9. Explain various file access and allocation methods with examples.   18