

Exam.Code:0923
Sub. Code: 6848

1078
B.E. (Information Technology)
Fifth Semester
ITE-533/543: Operating Systems

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) Distinguish between time sharing and multiprogramming.
- b) State the various components of an operating system.
- c) How does Shortest Job First scheduling work?
- d) What is the function of the 'dirty' bit in memory management?
- e) Discuss C-SCAN scheduling.
- f) Define the 'happened before' relation.
- g) What are 'pipes' in UNDO?
- h) State the components of a disk address.
- i) Identify any two factors that make a distributed system 'robust'.
- j) Define the term 'starvation' in the context of processes. (10x1)

UNIT – I

- II. Elaborate any 3 crucial services provided by an operating system. (10)
- III. Describe the paging and segmentation mechanism. Can these two be combined into one scheme? If yes, identify what will be the pros and cons of such an approach. (10)
- IV. Explain how semaphores and monitors help in process synchronization. (10)

UNIT – II

- V. Discuss the different methods for allocation of space to files on disk. Compare and contrast them. (10)
- VI. Identify the various design issues for a distributed operating system. (10)
- VII. Write short notes on:-
 - a) File replication
 - b) Unix I/O system (5,5)

x-x-x