

2125  
B.E. (Electronics and Communication Engineering)  
Seventh Semester  
EC-711: 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*

1. Attempt the following:-

- a) What do you understand by context switching? Discuss in brief.
- b) Differentiate between internal and external fragmentation.
- c) Is swapping the same as paging? Discuss in brief.
- d) What is a safe state in the context of deadlock? Discuss in brief.
- e) What is an APK file? Discuss in brief.

(5x2)

**UNIT - I**

2. a) Draw and explain the general structure of an operating system.

b) What do you understand by Inter-Process Communication (IPC)? Explain any one IPC mechanism.

(2x5)

3. a) How are operating systems classified? Briefly discuss the characteristics of any two types of operating systems.

b) What is swapping? What problem does it solve in memory management? Briefly discuss the steps involved in swapping process.

(2x5)

4. a) Explain the Round Robin scheduling algorithm with a suitable example. Discuss its major advantages and disadvantages.

b) Explain the concept of demand paging and its implementation.

(2x5)

**UNIT - II**

5. a) Explain the concept of deadlocks in operating systems and discuss the necessary conditions required for a deadlock to occur.

b) Explain the linked allocation mechanism used for allocating disk space to files. (2x5)

P.T.O.

(2)

6. a) Explain the concept and relationship between deadlock prevention and deadlock avoidance.
- b) Explain SSTF disk scheduling with the help of suitable example and its advantages and disadvantages. (2x5)
7. Write notes on the following:-
- a) iOS and its features
- b) Swap-Space Management (2x5)

x-x-x