JAIPUR ENGINEERING COLLEGE AND RESEARCH CENTRE

Department of Information technology

ASSIGNMENT OF OPERATING SYSTEM

COURSE :B.Tech **SEMESTER: V** **SECTION : (A,B & C)**

SUBJECT &CODE:OPERATING SYSTEM(5IT4-03)

Session 2024-25

Assignment-1

Q1. WAP to implement CPU scheduling algorithms. You can use any coding language. Upload the code file.

Q2. Discuss page replacement algorithms and Belady's Anomaly with a suitable example.

Q3. Find out the average waiting time using Priority scheduling of these following processes: Processes are P1, P2,P3, P4, P5 with arrival time 00,01,03,05,06 and their burst time 9,13,10,15,3 as well as priority as 2,4,1,5,3 . Where priority 1 is considered as highest.

Assignment-2

Q1Elucidate the difference between physical and logical address space

Q2 Discuss the terms page fault, hit ratio and miss ratio

Q.3 Consider a user program of logical address of size 6 pages and page size is 4 bytes. The physical address contains 300 frames. The user program consists of 22 instructions a, b, c, . . . u, v . Each instruction takes 1 byte. Assume at that time the free frames are 7, 26, 52, 20, 55, 6, 18, 21, 70, and 90. Find the following?

Assignment-3

Q1 Explain Deadlock and the necessary conditions for deadlock to occur

Q2 Explain Banker's Algorithm with the help of a suitable example

Q3Elaborate various methods to recover from deadlock?

Assignment-4

Q.1 Give the various disk scheduling methods

Q.2 Write Short notes on:

a)- Directory structure in Linux

b)- File Naming

c)- Acyclic Graph

d)- File Organization

Q.3 Suppose a disk drive has 200 cylinders, numbered from 0 to 199. The drive is initially at cylinder 53. The queue with request from 1/0 to blocks in cylinders:

98, 183, 37,122, 14, 124, 65, 67

Count the total head movements of cylinders in:

i)- SCAN Scheduling

ii)- C-SCAN Scheduling

Assignment-5

Q.1. Write the case studies of LINUX & UNIX with respect to :

a)- The shell

b)- The processing environment

c)- The kernel

d)- The File system

e)- Process management

f)- Memory management

Q.2. Write a case study in comparison of Mobile OS (Android). Consist all the essential parameters of OS fundamentals. (Consist at least 4 pages with necessary diagrams)

Q.3. Write case study in comparison of Mobile OS (iOS). Consist all the essential parameters of OS fundamentals. (Consist at least 4 pages with necessary diagrams).