**B.E / B.Tec. PRACTICAL END SEMESTER EXAMINATIONS, APRIL / MAY 2019**

Fourth Semester

(B.E – Computer Science and Engineering / Information Technology)

# CS8461- OPERATING SYSTEMS LABORATORY

(Regulations 2017)

Time : 3 Hours Maximum Marks :100

# Marks Split up

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sub Division a** | **Sub Division b** | **Sub Division c** | **Viva (10)** | **Record (10)** | **Total** |
| Program (20)  Execution (10)  Out put (10) | Program / Syntax (10) Execution and  Output(10) | Syntax (5+5) Execution and Output(5+5) | **10** | **10** | **100** |
| **40** | **20** | **20** |

1. a. Write a C program to implement Indexed file allocation Strategy (40)
   1. Explain the concept of looping using shell programming (20)
   2. Write the syntax and execute the following commands (20)
      1. CAT
      2. MKDIR
2. a. Implement Least Recently Used page replacement algorithm using C program (40)
   1. Explain the following system calls in UNIX operating system (20)
      1. fork
      2. exec
   2. Write the syntax and execute the following commands (20)
      1. PWD
      2. CD
3. a. Write a C program to implement Best Fit Memory Allocation Method (40)
   1. Write a shell program to find the given number is odd or even (20)
   2. Write the syntax and execute the following commands (20)
      1. RMDIR
      2. CLEAR
4. a. Write a C program to implement Worst Fit Memory Allocation Method (40)
   1. Execute the following commands in UNIX operating system (20)
      1. opendir
      2. readdir
   2. Write the syntax and execute the following commands (20)
      1. LS
      2. COPY
5. a. Write a C program to implement First Fit Memory Allocation Method (40)
   1. Execute the following commands in UNIX operating system (20)
      1. wait
      2. exit
   2. Write the syntax and execute the following command (20)
      1. MOVE
      2. WHO
6. a. Write a C program to implement Shortest Job First Scheduling algorithm (40)
   1. Write a C program to implement the UNIX commands ‘cp, ls, grep’ (20)
   2. Write the syntax and execute the following commands (20)
      1. WHO AM I
      2. MAN
7. a. Implement the paging concept using C program (40)
   1. Execute the following commands in UNIX operating system (20)
      1. getpid
      2. close
   2. Write the syntax and execute the following commands (20)
      1. CAT
      2. MKDIR
8. a. Implement LFU page replacement algorithm using C program (40)
   1. Create a shell program to perform arithmetic operations (20)
   2. Write the syntax and execute the following commands (20)
      1. PWD
      2. CD
9. a. Implement Least Recently Used page replacement algorithm using C program (40)
   1. Create a shell program to find the greatest among the given three numbers (20)
   2. Write the syntax and execute the following commands (20)
      1. RMDIR
      2. CLEAR
10. a. Implement First come first serve page replacement algorithm using C program (40)
    1. Execute the following commands in UNIX operating system (20)
       1. close
       2. stat
    2. Write the syntax and execute the following commands (20)
       1. LISTING DIRECTORY
       2. COPY
11. a. Implement bankers algorithm for deadlock detection using C program (40)
    1. Write a shell program to find the factorial of a given number (20)
    2. Write the syntax and execute the following commands (20)
       1. WHO
       2. MOVE
12. a. Write a C program to implement First Come First Serve Scheduling algorithm (40)
    1. Execute the following commands in UNIX operating system (20)
       1. opendir
       2. close
    2. Write the syntax and execute the following commands (20)
       1. MAN
       2. WHO AM I
13. a. Write a C program to implement Linked list file allocation Strategy (40)
    1. Create a shell program to perform arithmetic operations (20)
    2. Write the syntax and execute the following commands (20)
       1. CAT
       2. MKDIR
14. a. Write a C program to implement Indexed file allocation Strategy (40)
    1. Write a shell program to find the sum of n numbers (20)
    2. Write the syntax and execute the following commands (20)
       1. PWD
       2. CD
15. a. How the data is allocated sequentially, Write a C program to implement (40)
    1. Execute the following commands in UNIX operating system (20)
       1. fork
       2. exec
    2. Write the syntax and execute the following commands (20)
       1. RMDIR
       2. CLEAR
16. a. Write a C program to implement Producer-Consumer Problem using semaphore concept (40)
    1. Create a shell program to perform arithmetic operations (20)
    2. Write the syntax and execute the following commands (20)
       1. CAT
       2. MKDIR
17. a. Write a C program to implement First Round Robin Scheduling algorithm (40)
    1. Create a shell program to perform arithmetic operations (20)
    2. Write the syntax and execute the following commands (20)
       1. PWD
       2. CD
18. a. Write a C program to implement Priority Scheduling algorithm (40)
    1. Write a C program to implement the UNIX commands ‘cp, ls, grep’ (20)
    2. Write the syntax and execute the following commands (20)
       1. WHO AM I
       2. MAN
19. a. Implement pipe concept in Inter Process Communication using C program (40)
    1. Execute the following commands in UNIX operating system (20)
       1. close
       2. stat
    2. Write the syntax and execute the following commands (20)
       1. LISTING DIRECTORY
       2. COPY
20. a. Implement the concept of Threading and Synchronization using C Program (40)
    1. Create a shell program to perform arithmetic operations (20)
    2. Write the syntax and execute the following commands (20)
       1. CAT
       2. MKDIR