**Choice Based Credit System Third Semester B.C.A. Degree
Examination, April/May 2022**
(2020-21 Batch Onwards)
OPERATING SYSTEM AND LINUX (Group – I)

Time : 3 Hours   Max. Marks : 80

Note : Answer **any ten** questions from Part – **A** and **any one full**
question from **each** Unit of Part – **B**.

PART – A   (10×2=20)

1. a) What is an Operating System ?

   b) What is CPU burst and I/O burst ?

   c) Explain any two benefits of using threads.

   d) What are the tasks of the dispatcher ?

   e) Give the general structure of a process with a critical section.

   f) What is Virtual Memory ?

   g) What are Physical and logical addresses ?

   h) Expand the term KDE and GNOME.

   i) What is the use of back up files ?

   j) Write the syntax and purpose of mkdir command.

   k) Explain the pwd command.

   l) What is the use of read command ?

PART – B   (4×15=60)

Unit – I

2. a) Write short note on process management and file management.

   b) Draw and explain the process state diagram.

   c) Find waiting time and average waiting time using SJF Scheduling algorithms.

Process	Burst Time
P1	6
P2	8
P3	7
P4	3

                                                        (5+5+5)

3. a) Explain any five services of Operating System.

   b) Write note on PCB and explain its main parts.

   c) Explain the FCFS algorithm with an example.   (5+5+5)

Unit – II

4. a) Explain the necessary conditions for a deadlock to occur.

   b) Explain the safety algorithm.

   c) What is page-fault ? Write down a procedure for handling a page-fault trap.   (6+4+5)

5. a) Draw resource allocation graph with deadlock and without deadlock.

   b) Explain external fragmentation.

   c) Consider the reference string 7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7, 0,1. For memory with 3 frames, find the number of page faults using FIFO algorithm.   (5+5+5)

Unit – III

6. a) Explain the features of LINUX.

   b) Define and explain the components of file manager window.

   c) How can we configure computer network in LINUX ? Explain with example.   (5+5+5)

7. a) Write a note on LINUX distributions.

   b) How can we create files and folders in LINUX ?

   c) Write a note on Managing drives and media in LINUX OS.   (5+5+5)

Unit – IV

8. a) Explain any five options of *ls* command.

   b) Explain how file permissions can be changed using the chmod command.

   c) Explain any two iterative statements in Linux with syntax and example.

                                                                (5+5+5)

9. a) Explain if statement with syntax and example.

   b) Explain how to create, edit and save a shell program using the vi editor.

   c) Explain case statement with syntax and example.   (5+5+5)