Reg. No.

Credit Based Second Semester B.Com. Degree Examination, September 2022
(2018-19 and Earlier Batches)
COMPUTER APPLICATIONS
Paper – IV : Operating Systems and Linux

Time : 3 Hours   Max. Marks : 80

PART – A

1. Answer **any ten** questions from the following :   **(10×2=20)**

   a) Mention the different types of OS.

   b) What is batch system ?

   c) Define time sharing system.

   d) What is the difference between a program and a process ?

   e) What is a deadlock ? Give an example.

   f) What is Thread ?

   g) What are the main parts of a process ?

   h) Define response time.

   i) Define preemptive scheduling and non preemptive scheduling.

   j) Differentiate swapping and demand paging.

   k) What is the use of pwd command ?

   l) Give the difference between mv and cp command.

PART – B

Note : Answer **one full** question from **each** Unit.

Unit – I

2. a) Explain any two benefits of using threads.   **(5+5+5)**

   b) Explain operating system services.

   c) Draw and explain the process state diagram.

3. a) Explain briefly three types of schedulers.   **(5+5+5)**

   b) Explain any four services of the OS to the user.

   c) Explain the main parts of a process.

Unit – II

4. a) Give the general structure of a process with a critical section.   **(5+5+5)**

   b) Write a note on :
      i) Deadlock prevention
      ii) Deadlock avoidance
      iii) Recover from deadlock.

   c) What is scheduler ? Explain different types of scheduler.

5. a) Explain the shortest job first algorithm with an example.   **(5+5+5)**

   b) Explain the different scheduling criteria for cpu scheduling algorithm.

   c) Explain priority scheduling with an example.

Unit – III

6. a) Explain Swapping with diagram.   **(5+5+5)**

   b) Write a note on implementation of segmentation.

   c) Explain demand paging with neat diagram.

7. a) Explain the need of page replacement in a page fault service routine.
     (5+5+5)

   b) Explain how the operating system implements opening of a file. What are file pointer and file open count ?

   c) Briefly explain direct and sequential access of files.

Unit – IV

8. a) Give the syntax and explain if statement with an example.   **(5+5+5)**

   b) What are the features of Linux OS ?

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

9. a) Write a note on kernel of Linux.   **(5+5+5)**

   b) Explain the following commands with example.
      i) sort   ii) grep

   c) Explain the command used to move a directory or a file in Linux.

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