[159]

Seat no _____

SARDAR PATEL UNIVERSITY
B.Sc. CA & IT (SEMESTER-III) EXAMINATION 2022
US03CIIT55 : Operating System

Date : 14/11/2022 (Monday)   Marks: 70
Time : 02:00 p.m. to 05:00 p.m.

[10]

Q. 1 Multiple Choice Questions

1 Compiler is an example of which components of Operating system?
   (a) Hardware   (b) System Program   (c) Application Program   (d) none

2 _____ is NOT a valid Process state.
   (a) Ready   (b) File   (c) Running   (d) Terminate

3 Which is the solution for priority scheduling algorithm?
   (a) Starvation   (b) Aging   (c) Indefinite Blocking   (d) Infinite Blocking

4 A Lazy Swapper is also known as _____.
   (a) Pager   (b) Frames   (c) Pages   (d) None of these

5 _____ is not a valid Memory allocation algorithm.
   (a) First-fit   (b) Worse-fit   (c) Best-fit   (d) Suit-fit

6 _____ page replacement algorithm will swap a page that will not be used for longer period of time.
   (a) FIFO   (b) LRU   (c) Optimal   (d) None of these

7 _____ buffer has fixed buffer size.
   (a) Bounded   (b) Unbounded   (c) Shared   (d) None

8 Each process has a segment of code called _____
   (a) important Section (b) Critical Section (c) Mutual Section (d) None

9 _____ command is use to merge multiple files.
   (a) merge   (b) paste   (c) cp   (d) None

10 _____ option of vi editor is use to save your work.
   (a) cp   (b) mv   (c) rm   (d) :w

[20]

Q. 2 Short Question (Any TEN)

1   List advantages of multi-user OS.
2   Draw the diagram of PCB.
3   What is Context Switching?
4   Calculate Page faults using FIFO algorithm for following reference string: (Number of Frames = 4) Reference string = 7,0,4,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1
5   What is Compaction? For what purpose it will use.
6   Explain Internal Fragmentation in short
7   Explain any two necessary conditions of Critical Section.
8   Explain resource utilization in details.
9   Justify "Linux is a Secure Operating System".
10 Explain ls –l command.
11 Explain cut command in short..
12 Explain case statement in LINUX.

Q. 3

[A] List out various types of OS. Explain Real Time Operating System.   [05]
[B] Explain process state and PCB in brief.   [05]

OR

[A] Which are the functions performed by Operating System?   [05]
[B] Describe FCFS scheduling with advantages and disadvantages.   [05]

(1)

CP.T.O.

Q. 4

[A] Explain Swapping of two processes with example.

[B] What is Demand Paging? Explain in brief. [05]

[05]

OR

[A] Explain Memory allocation techniques in detail. [05]

[B] Explain Paging techniques with advantages and disadvantages [05]

[05]

Q. 5

[A] What is Cooperative Process? Explain Producer-Consumer Problem

[B] What are the necessary conditions for Deadlock prevention? [05]

[05]

OR

[A] List out differences between cooperative and independent process. Also explain [05]
advantages of cooperative process.

[B] What is LINUX? Explain basic features of LINUX Operating System. [05]

Q. 6

[A] Explain if and case statement in LINUX.

[B] Explain following commands with example: b) pwd c) mkdir [05]

[05]

OR

[A] Explain grep command with at least four possible attributes and examples

[B] Explain **for** loop in Linux. [05]

[05]

—— X ——

②