

C 40096

(Pages : 3)

Name.....

Reg. No.....

**SIXTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION
MARCH 2023**

Computer Science

BCS 6B 12—OPERATING SYSTEMS

(2017—2018 Admissions)

Time : Three Hours

Maximum : 80 Marks

Part A*Answer all questions.**Each question carries 1 mark.*

1. PCB stands for _____.
2. _____ is a storage allocation scheme in which secondary memory can be addressed as though it were part of the main memory.
3. _____ command can be used to change default permissions for files and directories at the time of creation.
4. FCFS stands for _____.
5. A set of processes is deadlock if _____.
 - A) Each process is blocked and will remain so forever.
 - B) Each process is terminated.
 - C) All processes are trying to kill each other.
 - D) None of the above.
6. A filename that starts with a period is a _____ file.
 - A) Regular.
 - B) Normal.
 - C) Hidden.
 - D) Executable.
7. CPU scheduling is the basis of _____.
 - A) Multiprocessor systems.
 - B) Multiprogramming operating systems.
 - C) Larger memory sized systems.
 - D) None of the above.

Turn over

8. Virtual memory allows which of the following ?
- A) Execution of a process that may not be completely in memory.
 - B) A program to be smaller than the physical memory.
 - C) A program to be larger than the secondary storage.
 - D) Execution of a process without being in physical memory.
9. Which of the following is not a part of UNIX operating system ?
- A) Shell.
 - B) Kernel.
 - C) NTFS.
 - D) EXT3.
10. Which of the following file system supported by Windows NT ?
- A) FAT.
 - B) NTF.
 - C) EXT3.
 - D) VFAT.

(10 × 1 = 10 marks)

Part B

*Answer all questions.
Each question carries 3 marks.*

- 11. What is an Operating System ? Give any *one* example.
- 12. What is the use of *man* command in Linux ? Give its syntax also.
- 13. Explain the different attributes of a file.
- 14. What do you mean by demand paging ?
- 15. What is UNIX kernel ?

(5 × 3 = 15 marks)

Part C

*Answer any five questions.
Each question carries 5 marks.*

- 16. What is Deadlock ? Explain how it can be prevented.
- 17. What are the different services of an Operating System ? Explain.
- 18. What is the purpose of *ls* command in Unix ? Explain any six options of *ls* command.
- 19. Write a shell script to display the content of */etc/passwd* file.

20. Explain the implementation of Readers-Writers problem using semaphores.
21. Explain the concept of page replacement.
22. Explain the algorithm to solve critical section problem.
23. Explain the characteristics of mobile operating systems.

(5 × 5 = 25 marks)

Part D

*Answer any **three** questions.
Each question carries 10 marks.*

24. What are the different states of a process ? Explain process state transition diagram.
25. What is a File ? Explain the different types of files as available in UNIX operating system.
26. Consider the reference stream 1, 2, 3, 4, 2, 1, 5, 6, 2, 1, 2, 3, 7, 6, 3, 2, 1, 2, 3, 6. How many page faults while using FCFS and SJF using 2 frames ?
27. What is page fault ? Explain the different methods for handling page faults.
28. Compare and contrast the features and technologies used in Windows NT and UNIX operating system.

(3 × 10 = 30 marks)