C 80179 (Pages : 2) Name.....

Reg. No.....

SIXTH SEMESTER B.A./B.Sc. DEGREE EXAMINATION, MARCH 2020

(CUCBCSS—UG)

Computer Science

BCS 6B 12—OPERATING SYSTEMS

(2017 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

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

1. What is PCB ?
2. What is time sharing operating systems ?
3. Which Linux command is used for removing an empty directory ?
4. What is the default umask value in Linux ?
5. Expand SJF.
6. What is critical section ?
7. What is the use of overlay in Operating Systems ?
8. What is demand paging ?
9. Give the name of any two mobile operating systems ?
10. What is theft of service ?

(10 × 1 = 10 marks)

Part B

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

11. What is a process ? Explain its different states.
12. Give the different types of shells available in Linux.
13. Write a short note on free space management.

14. Explain thrashing.

15. Distinguish between authorization and authentication.

(5 × 3 = 15 marks)

Part C

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

16. What is an operating system ? Explain its function and evolution.

17. What is a semaphore ? Explain its implementation.

18. Write a shell script to list all the users available in */etc/passwd* file in Linux.

19. What is the use of *ls* command in Linux ? Explain the different options *ls* command.

20. Write a note on Dining Philosopher problem.

21. Differentiate between segmentation and swapping.

22. Explain the differences between dynamic loading and dynamic binding.

23. Compare and contrast Unix and Windows NT.

(5 × 5 = 25 marks)

Part D

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

24. What is deadlock ? Explain the necessary and sufficient conditions for the occurrence of a deadlock.

25. Give a detailed account on Linux Directory Layout.

26. Apply SJF and FCFS scheduling and find the average waiting time and turnaround time for executing the following processes.

Process		*Burst Time*	*Arrival Time*
P1	...	5	0
P2	...	2	1
P3	...	1	1.5
P4	...	1	3
P5	...	4	4

27. Explain the concept of virtual memory.

28. Explain the architecture and features of any *one* mobile operating system.

(3 × 10 = 30 marks)