19U644S (Pages: 2) Name: ....

Reg. No: ……....................

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2022
(CUCBCSS-UG)
CC17U BCS6 B12 - OPERATING SYSTEMS
(Computer Science - Core Course)
(2017, 2018 Admissions – Supplementary/Improvement)

Time: Three Hours   Maximum: 80 Marks

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

1. Where does swap space reside?

2. What is race condition?

3. What is the use of mv command in shell scripting?

4. what is degree of multiprogramming?

5. What do you mean by throughput?

6. Write an example of a pre-emptive scheduling algorithm?

7. What is a logical address?

8. What is convoy effect?

9. Define the term encryption.

10. What is authorization?

(10 × 1 = 10 Marks)

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

11. Write a note on Real-time systems?

12. Write notes on logical operators in shell.

13. What is thrashing?

14. What do you mean by Paging?

15. What is virtual memory

(5 × 3 = 15 Marks)

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

16. Explain the working of time-sharing systems.

17. What is Paging?

18. Compare and contradict pre-emptive and non-pre-emptive scheduling.

19. Explain different types of shell.

20. Explain any two-page replacement algorithms with example

21. Write short note on deadlock and its prevention.

22. Compare and contradict multiprogramming with time sharing systems.

23. Explain dining philosopher's problem?

(5 × 5 = 25 Marks)

PART IV

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

24. Explain various schemes that can be adopted to manage memory?

25. Explain sequential and indexed file access, methods?

26. Explain Peterson solution to critical section problem?

27. Explain the working of demand paging in detail.

28. Consider the following page reference string 1, 2, 3, 4, 5, 3, 4, 1, 6, 7, 8, 7, 8, 9, 7, 8, 9, 5, 4, 4, 5, 3. How many page faults would occur for the following replacement algorithms? Assume four frames and all frames are initially empty.

    a) LRU replacement.

    b) FIFO replacement.

    c) Optimal replacement

(3 × 10 = 30 Marks)

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