

C 42756

(Pages : 2)

Name.....

Reg. No.....

**SECOND SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY)
EXAMINATION, APRIL 2023**

(CBCSS)

Computer Science

CSS 2C 07—OPERATING SYSTEM CONCEPTS

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

Section A*Answer any **four** questions.**Each question carries 2 weightage.*

1. What is an Operating system ?
2. Compare and contrast Single-threaded and multi-threaded process.
3. Define Monitor.
4. What are the disadvantages of single contiguous memory allocation ?
5. Consider the following page reference string : (7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 3) and number of frames is 4. How many page faults would occur for the optimal page replacement algorithm, assuming three all frames are initially empty.
6. Give a note on Granularity.
7. List any *three* main operating systems for mobile devices.

(4 × 2 = 8 weightage)

Section B*Answer any **four** questions.**Each question carries 3 weightage.*

8. What resources are required to Creating threads ?
9. With a neat diagram, explain various states of a process.
10. Briefly explain the Readers-Writers problem.

Turn over

11. What is a Semaphore ? Also give the operations for accessing semaphores.
12. Distinguish between Logical and Physical address space.
13. Discuss the hardware support required to support demand paging.
14. List out the characteristic of Real-Time OS.

(4 × 3 = 12 weightage)

Section C

*Answer any two questions.
Each question carries 5 weightage.*

15. Differentiate Segmentation with Paging.
16. Discuss various methods for the prevention of deadlocks.
17. Distinguish between preemptive and non-preemptive scheduling. Explain each type with an example.
18. Describe Three-Tire Client/Server Architecture with a neat diagram.

(2 × 5 = 10 weightage)