

Roll No.

Total No. of Pages : 02

Total No. of Questions : 07

**B.Sc. (Cyber Security) (Sem-2)**

**OPERATING SYSTEMS**

**Subject Code : UGCA1923**

**M.Code : 91715**

**Date of Examination : 05-06-2023**

**Time : 3 Hrs.**

**Max. Marks : 60**

**INSTRUCTIONS TO CANDIDATES :**

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **SIX** questions carrying **TEN** marks each and students have to attempt any **FOUR** questions.

**SECTION-A**

**1. Write briefly :**

- a) Write at least two functions of an Operating System.
- b) Explain the term PCB.
- c) Differentiate between Program and Process.
- d) Explain in brief about address binding.
- e) What is demand paging? Explain
- f) Write at least two advantages of Virtual Memory.
- g) Why is disk scheduling important?
- h) What is a File? List the various file attributes.
- i) Explain in brief about multiprocessor scheduling.
- j) List characteristics of Real Time Operating System.

## SECTION-B

2. What is CPU Scheduling? Explain the different scheduling criteria. Explain FCFS and SJF scheduling algorithms with a suitable example.
3. Write a detailed note on role of operating system as a resource manager.
4. Explain the paging scheme of memory management in detail.
5. What is the need of Page replacement? Consider the following reference string

7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7, 0, 1

Find the number of Page Faults with FIFO, Optimal Page replacement and LRU with three free frames which are empty initially. Which algorithm gives the minimum number of page faults?

6. Write a detailed note on following :
  - a) Remote File Systems
  - b) File Access Methods.
7. Write a detailed note on Distributed Operating System.

**NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.**