Roll No. | | | | | | | | | | | | **Total No. of Pages: 02**

Total No. of Questions: 07

B.Sc (Computer Science) (Sem. – 4)

OPERATING SYSTEMS

Subject Code: BCS-405

M Code: 72321

Date of Examination : 22-12-2022

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) List the functions of an Operating System.

   b) Differentiate between Multiprocessing and Multitasking operating system.

   c) What is a process? List various process states.

   d) Define threads.

   e) What is starvation in scheduling and its solution?

   f) How protection is achieved in contiguous memory allocation?

   g) What is demand paging?

   h) Define thrashing.

   i) Define seek time and rotational delay.

   j) What are program threats?

SECTION-B

2. Define operating system. Draw and explain the layered model of operating system.

3. What do you mean by CPU scheduling? What are the criteria of selecting scheduling algorithms? Explain with example the Shortest Job First scheduling and Round robin scheduling algorithms.

4. What are the benefits and demerits of direct-indirect and symmetric- asymmetric inter-process communication techniques?

5. Define and distinguish between paging and segmentation techniques of memory management.

6. What is demand paging? Explain the working of FIFO and Optimal page replacement algorithms with the help of an example.

7. What are various threats to a computer system? Elaborate in detail the various security mechanisms.

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.