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

Total No. of Questions : 09

M.Sc.(IT)/MCA/PGDCA (2019 Batch) (Sem.–1)

OPERATING SYSTEM

Subject Code : PGCA-1903

M.Code : 76973

Date of Examination : 14-01-2023

Time : 3 Hrs. Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION - B & C have FOUR questions each.
3. Attempt any FIVE questions from SECTION B & C carrying TEN marks each.
4. Select atleast TWO questions from SECTION - B & C.

SECTION-A

1. Explain the following :

a) What is an Operating System.

b) Define time sharing operating system.

c) Define schedulers.

d) Define semaphores.

e) What is the use of Valid-Invalid Bits in Paging?

f) What are Pages and Frames?

g) List the various File Attributes.

h) What is meant by Locality of Reference?

i) What is External Fragmentation?

j) What is the difference between logical and physical addresses?

SECTION-B

2. Discuss the Simple Operating System structure. Describe the layered approach.

3. Define IPC. What are different methods used for logical implementations of message passing Systems.

4. What is the difference between a preemptive and non-preemptive scheduling algorithm? Explain FCFS scheduling algorithm. Find the average turnaround time and average waiting time for the processes given in the table below.

Process	CPU burst time (in ms)
P1	24
P2	3
P3	3

5. What is deadlock? Explain deadlock prevention in detail?

SECTION-C

6. Explain about advantages and disadvantages of paging. And explain difference between paging and segmentation.

7. What is demand paging? Explain it with address translation mechanism used. How a page table is implemented?

8. Explain different disk scheduling algorithms SCAN, CSCAN, CLOOK.

9. Describe indexed file, indexed sequential file organization by taking suitable examples.

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