

S-718

Total Pages : 4

Roll No. -----

MCA-11/MSCIT-11

Operating System

(MCA/MSICIT)

3rd Semester, Examination 2022(Dec.)

Time: 2 Hours

Max. Marks: 70

Note : This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

Section – A

(Long Answer – type questions)

Note: Section 'A' contains Five (05) long-answer-type questions of Nineteen (19) marks each. Learners are required to answer any two (02) questions only.

[2 x 19 = 38]

P.T.O.

- Q.1. What do you mean by Deadlock? Discuss some examples. List four necessary conditions for deadlock.
- Q.2. Explain Banker's Algorithm. Difference between paging and segmentation. What are the advantages and disadvantages of demand paging?
- Q.3. Describe various file allocation methods with their advantages and disadvantages. Define file sharing in detail?
- Q.4. Apply SJF and RR algorithm. Calculate the Average Waiting Time with the help of Gantt Chart of the following (For RR use quantum time 4ms)

Process	Burst time
P1	24
P2	3
P3	3

- Q.5. Write down a short note on (ANY TWO)
- i. Cryptography
 - ii. Interrupt handler
 - iii. Deadlock Avoidance

Section – B

(Short-answer-type questions)

Note: Section 'B' contains Eight (08) short-answer-type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only.

[4 x 8 = 32]

- Q.1. What is Operating System? Describe the various types of operating system?
- Q.2. Explain principles of I/O Hardware & I/O Software. Give role of device controller.
- Q.3. What do you mean by Inter process communication? Differentiate between multiprogrammed & timesharing system?
- Q.4. Explain the following : Multithreading, Multitasking and Multiprogramming?
- Q.5. Write Scheduling Algorithm? Differentiate primitive and non-primitive scheduling?

P.T.O.

- Q.6. What is swapping? Discuss paging, page tables, page replacement?
- Q.7. What is critical section problem? What are the different approaches required to implement a critical section problem?
- Q.8. What are security threats and explain protection and access control.
