FACULTY OF INFORMATICS
M.C.A. (2 Years Course) II-Semester (CBCS) (Backlog) Examination, March/ April 2024

Subject: Operating Systems

Time: 3 Hours   **Max. Marks: 70**

Note: I. Answer one question from each unit. All questions carry equal marks.
     II. Missing data, if any, may be suitably assumed.

Unit – I

1. a) Give an account on File Permission in Unix Environment.
   b) Write a Shell script program to demonstrate arithmetic operations in Unix.

(OR)

2. a) What are the goals and functions of Operating System?
   b) What is Process Synchronization? Explain Critical Section problem in detail.

Unit-II

3. a) Give an account on Contiguous Memory Allocation Schemes.
   b) Explain Segmentation technique with neat Diagram.

(OR)

4. a) Discuss about Demand Paging with neat diagram.
   b) Define Virtual Memory? Explain FIFO Page Replacement Algorithm with Example.

Unit-III

5. a) Explain about File Access Methods.
   b) Illustrate Directory Implementation in OS.

(OR)

6. Discuss about the following
   a) File Access Methods   b) Mass Store Structure

Unit- IV

7. a) Briefly explain about Capability Based Systems.
   b) Discuss about Access Controls and Access Rights for System Protection.

(OR)

8. Discuss the following in System security.
   a) Program Threats   b) Cryptography

Unit-V

9. a) Discuss about Kernal Modules in Linux Operating System.
   b) Write about Inter Process Communication in Linux.

(OR)

10. a) Discuss about Design Principles of Windows XP.
    b) Write a short note on Networking in Windows.

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