

11. Explain the requirements of mutual exclusion algorithms with suitable example.
12. Explain public key cryptography in detail.
13. (a) Explain deadlock resolution techniques.
- (b) Explain Caesar's Cipher with suitable example.

**MSCCS-10/MSCCS-204/
MSCCSC-204/MCA-204**

June – Examination 2024

MCA (IInd Year) Examination

COMPUTER SCIENCE

(Operating System)

**Paper : MSCCS-10/MSCCS-204/
MSCCSC-204/MCA-204**

Time : 3 Hours]

[Maximum Marks : 80

Note :- The question paper is divided into three Sections A, B and C. Write answers as per the given instructions.

Section-A

8×2=16

(Very Short Answer Type Questions)

Note :- Answer all questions. As per the nature of the question delimit your answer in one word, one sentence or maximum up to **30** words. Each question carries 2 marks.

1. (i) What do you mean by critical section problem ?
- (ii) Define deadlock.
- (iii) What does 'ls' command do ?
- (iv) What is main purpose of using 'awk' ?
- (v) Write one major difference between client and server.
- (vi) What do you mean by distributed shared memory ?
- (vii) What do you mean by hash function ?
- (viii) Define transaction.

Section-B **4×8=32**

(Short Answer Type Questions)

Note :- Answer any *four* questions. Each answer should not exceed **200** words. Each question carries 8 marks.

2. Explain the concept of semaphores.
3. How do you use regular expressions in shell programming ?
4. Explain distributed operating system.
5. Describe the concept of algorithm for distributed mutual exclusion.
6. Explain cache consistency.
7. Explain design principles for secure system.
8. Describe No Remote Memory Access (NORMA).
9. Write short note on Shadow Paging.

Section-C **2×16=32**

(Long Answer Type Questions)

Note :- Answer any *two* questions. You have to delimit your each answer maximum up to **500** words. Each question carries 16 marks.

10. (a) Write a shell script to find out the greatest number out of three given numbers.
- (b) How do you run awk programs ? Explain.