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

June - Examination 2026

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 in each section.

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 is a Security Threat?
   (ii) Define Concurrent Process.
   (iii) What is Semaphore?
   (iv) Define deadlock.
   (v) What is the role of Kernel in Linux?
   (vi) What is regular expression?
   (vii) How are comments written in awk program?
   (viii) Define Cryptography.

Section-B **4×8=32**

(Short Answer Type Questions)

Note :- Answer **any four** questions. You have to delimit your each answer maximum up to **200** words. Each question carries **8** marks.

2. Explain working of computer virus and worms.
3. Explain atomic transactions in operating system.
4. Discuss field separation technique in awk.
5. Describe Message Passing and Remote Procedure call.
6. Explain distributed mutual exclusion and its requirements.
7. Discuss scalability and compatibility issues in distributed system.
8. Explain working principle of Ricart-Agrawala Algorithm.
9. Explain cryptography and its role in distributed security.

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. Describe the critical section problem in detail. Explain different approaches used to solve the synchronization problem.
11. Define deadlock and explain the necessary conditions for deadlock occurrence with examples.
12. Discuss standard streams, redirection and pipes in UNIX with suitable examples.
13. Define database operating system. Discuss concurrency control and serializability.
