

11. Explain various scheduling criteria. Why do we need scheduling algorithms ? Explain in brief all the scheduling algorithms with an example.
12. Define virtual memory and explain the process of converting Virtual addresses to Physical addresses with a neat clean diagram.
13. Write short notes on the following :
 - (a) Shared Memory System
 - (b) Message Passing System
 - (c) Sockets
 - (d) Remote Method Invocation (RMI)

BCA-07/DCA-102

June – Examination 2024

BCA (IInd Year)/DCA Examination

OPERATING SYSTEM-I

Paper : BCA-07/DCA-102

Time : 3 Hours]

[Maximum Marks : 70

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

Section-A

2×7=14

(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) Give any *two* differences between peer-to-peer computing and client-server computing.
- (ii) What do you understand by batch processing ?
- (iii) What is the use of a page table ? Give suitable example.
- (iv) Explain CPU-bound and I/O bound jobs in short.
- (v) What are the benefits of multiprogramming ?
- (vi) What do you mean by Starvation ?
- (vii) What do you understand by direct memory access ?

Section-B **4×7=28**

(Short Answer Type Questions)

Note :- Answer any *four* questions. Each answer should not exceed **200** words. Each question carries 7 marks.

2. What is a thread ? Discuss various multithreading models.

3. What is worm ? Give the significant difference between a Worm and a Virus.
4. Explain the process of Encryption and Decryption process with a suitable example.
5. What do you mean by file attributes ? Explain in detail.
6. What do you understand by domain ? Explain access hierarchies and protection rings.
7. Explain Process Synchronization. How is it different from Data Synchronization ?
8. What do you understand by the safe and unsafe state ? Explain the banker's algorithm with the necessary data structure for deadlock avoidance.
9. Differentiate Internal fragmentation and External fragmentation.

Section-C **2×14=28**

(Long Answer Type Questions)

Note :- Answer any *two* questions. You have to delimit your each answer maximum up to **500** words. Each question carries 14 marks.

10. What do you mean by access matrix ? Explain the different methods to implement the access matrix.