BCA-07/DCA-102

December - Examination 2019

BCA Pt. II/DCA Examination

Operating System - I

Paper - BCA-07/DCA-102

Time : 3 Hours] **[Max. Marks :- 70**

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

Section - A 7 × 2 = 14

(Very Short Answer Questions)

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

1) (i) List the Services of the Operating System.

(ii) Name any two CUI based Operating System.

(iii) List any four possible programs and system threads.

(iv) What is Cipher text? Give an example.

(v) What is Polling?

(vi) What do you mean by Batch Processing System?

(vii) What is the use of the fork system call?

Section - B 4 × 7 = 28

(Short Answer Questions)

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

2. Differentiate between uniprogramming and multiprogramming system.

3. What is Fragmentation? Discuss the difference between external and internal fragmentation.

4. What is the “need-to-know” principle? Why is it important for a protection system to adhere to this principle?

5. Write a short note on hashed paging? Explain with a suitable example.

6. What is the Bus? Explain the structure of bus structure with a suitable example.

7. What is Page fault? Discuss the cause of thrashing.

8. Explain the functions of the file system. Also, discuss sequential and direct access methods with suitable examples.

9. What is segmentation? Explain address translation in segmentation.

Section - C 2 × 14 = 28

(Long Answer Questions)

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

10) Give the basics of communication in Client-Server System including Sockets, RPC, and RMI.

11. What is Thread? Discuss various Multi-Threading Models in detail?

12. What is the Producer-Consumer Problem? Explain the solution using Semaphore and Monitor. Also, explain the difference between Monitors and Semaphores.

13. What is Deadlock? Explain the deadlock prevention in details.