12. What is the role of buffering ? Explain the various buffering Schemes used in interprocess communication.

13. Describe the following commands in Linux System.

    (a) Is

    (b) cd

    (c) Mkdir

    (d) rmdir

BCA–13

June – Examination 2024

B.C.A. (Part III) Examination

OPERATING SYSTEM–II

Paper : BCA-13

*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 **7×2=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) How do we declare variable in Shell Script ? Give an example.

   (ii) Explain root account with an example.

(iii) Write any *two* differences between hard and soft real time systems.

(iv) Name the seven layers of OSI model.

(v) What do you mean by null Buffering ?

(vi) Why do we need compression ?

(vii) What do you understand by Distributed System ?

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 are the seven fields in the/etc/passwd file ? Explain each field with a suitable example.

3. What are file permissions in Linux ? Explain the significance of read, write and execute permissions.

4. Define distributed computing and discuss its advantages and challenges compared to centralized computing.

5. Explain the role of a system administrator in a Linux environment. What are the key responsibilities of a Linux system administrator.

6. Explain, how variables are defined and used in shell sripts ? Provide examples of variable assignments and substitutions.

7. Discuss the challenges of data consistency and synchronization in distributed computing. How are these challenges addressed in distributed databases and file systems ?

8. Explain the role of the Linux kernel in an operating system and discuss its key components.

9. Given the disk request queue [98, 183, 37, 122, 14], calculate the total head movement using the SCAN disk scheduling algorithm starting from track 50 moving towards higher tracks.

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. Explain the RPC (Remote Procedure Call) model with a suitable example.

11. Differentiate between password files and Shadow password files in Linux System.