

(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR 2024-25 ONLY)

SUBJECT CODE

24UBC308

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI
END-OF-SEMESTER EXAMINATIONS : NOVEMBER-2025

B.C.A
SEMESTER: III

MAXIMUM MARKS: 75
TIME : 3 HOURS

PART – III
OPERATING SYSTEM & LINUX

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS.

(K1)

1. Which of the following is the fastest storage in the storage hierarchy?
a. Hard Disk b. Cache Memory c. RAM d. CD-ROM
2. Which of the following CPU scheduling algorithms gives the minimum average waiting time for a given set of processes?
a. First-Come, First-Served (FCFS) b. Shortest Job Next (SJN)
c. Round Robin (RR) d. Priority Scheduling
3. What is the primary purpose of an Access Control Matrix?
a. To define the file format b. To organize files sequentially
c. To specify rights of subjects over objects d. To allocate memory
4. Which of the following is NOT one of the three primary modes of the VI editor?
a. Command Mode b. Insert Mode c. Visual Mode d. Ex Mode
5. Which command is used to mount a file system in Linux?
a. login b. shutdown c. mount d. chmod

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES.

(K2)

6. Define Interrupts.
7. What is deadlock?
8. State the Importance of disk scheduling?
9. Define pwd.
10. What is the role of a superuser in a Linux system?

SECTION – B

(5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Describe the concept of semaphores to solve a producer-consumer problem .
(OR)
b) Describe the concept of virtual storage and explain how it helps in efficient memory management in an operating system.
12. a) Compare Pre emptive Vs Non preemptive Scheduling .
(OR)
b) Describe FIFO (First-Come, First-Served) Scheduling with an example.

(CONTD 2)

13.a) Apply the concept of Disk Scheduling and explain any two common disk scheduling algorithms with example.

(OR)

b) Apply the concept of file access control and explain how Access Control Matrix and User Classes help in securing files.

14.a) Assess Linux directory structure and describe the use of the /home directory.

(OR)

b) Apply the head and tail commands in Linux to display specific lines from a file. Demonstrate their usage with appropriate examples.

15.a) Apply the Linux shutdown command and explain how different options affect the shutdown process with suitable examples.

(OR)

b) Apply your understanding of command line arguments in a shell script.

SECTION – C

(5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

(K4 (Or) K5)

16. a) Summarize the functionalities of the Operating System.

(OR)

b) Discuss the history of OS.

17.a) Describe and analyze Round robin Scheduling with example.

(OR)

b) Summarize bankers algorithm with suitable example.

18. a) Compare various disk scheduling algorithms based on performance metrics.

(OR)

b) Evaluate different file allocation and access control methods in file systems

19.a) Discuss VI Editor.

(OR)

b) Summarize TEN utility commands in Linux.

20.a) Develop a script that accepts two command-line arguments and performs a logical operation to check if both are equal. Display appropriate messages.

(OR)

b) Discuss various condition statements in Linux.