

BCA DEGREE END SEMESTER EXAMINATION - APRIL 2026**UGP (HONS.) SEMESTER 2: SKILL ENHANCEMENT COURSE****COURSE : 24UBCASEC102 - LINUX OPERATING SYSTEM***(For Regular 2025 Admission and Improvement/Supplementary 2024 Admission)*

Time : 1.5 Hours

Max. Marks: 50

PART A***Answer any 5 questions. Each question carries 2 marks.***

1. Define FOSS. (U, CO1)
2. List any five distributions of the Linux OS. (U, CO1)
3. Illustrate the use of the 'cat' command in Linux. (U, CO2)
4. Write the syntax of the 'while' loop in bash scripting. (U, CO3)
5. Assume a sleep process is running. You are required to find its job id and move it to the background. Write commands for the same. (A, CO4)
6. The system administrator needs to broadcast the message "TEMPORARY SERVICE INTERRUPTION DUE TO SYSTEM MAINTENANCE" to all users. Identify the command that fits this context best. (A, CO4)
7. Write commands for the following : i) Adding a user account **faculty** in your machine. ii) Locking the **faculty** account. iii) Deleting the **faculty** account. (U, CO5)
(2 x 5 = 10)

PART B***Answer any 4 questions. Each question carries 5 marks.***

8. Illustrate and explain the components of Linux architecture. (U, CO1)
9. Write a shell script to implement a menu-driven simple calculator. (A, CO3)
10. Write commands for the following: (A, CO2)
 - a) View file permissions of a file report.txt
 - b) Using symbolic mode, assign read, write and execute permissions to the user, and read only for the group and others.

- c) Using octal mode, assign read and write permissions to the user, execute permission for the group and read only for others.
- d) Using octal mode, deny write permission to everyone.
- e) Change the owner of the file report.txt to Tom.

11. Discuss the various system calls for process creation. (U, CO4)

12. Illustrate and explain the process state transition diagram. (U, CO1)

13. Explain the booting process in Linux machines. (U, CO5)
(5 x 4 = 20)

PART C

Answer any 2 questions. Each question carries 10 marks.

14. Explain any 10 commands with syntax and examples on file and directory operations in Linux. (A, CO2)

15. Discuss the system calls for file management in Linux. (U, CO4)

16. Analyze the duties and responsibilities of a system administrator. (An, CO5)
(10 x 2 = 20)

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Marks
CO1	Explain the basic concepts of the Linux operating system.	U	1,2,8	9
CO2	Apply basic Linux commands to manage files and directories.	A	3,10,14	17
CO3	Develop and execute basic shell scripts in Linux to perform system tasks.	A	4,9	7
CO4	Illustrate the inter-process communication in Linux.	A	5,6,11,12,15	24
CO5	Analyze the various duties and responsibilities of a System administrator.	An	7,13,16	17

Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;