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DCCA213

Reg. No. | | | | | | | | |

II Semester B.C.A. Degree Examination, June/July - 2026
COMPUTER APPLICATIONS
Operating System
(SEP Scheme)

P G Library
SRN Adarsh College
Chamarajpet,
Bengaluru-560018

Time : 3 Hours **Maximum Marks : 80**

Instructions to Candidates:

Answer all the Sections.

SECTION - A

I. Answer any Ten questions. Each question carries 2 marks. (10×2=20)

1. Define operating system and name any two services of operating system.
2. How process is different from program?
3. What is Thread?
4. Define deadlock with example.
5. Define mutex locks.
6. What is critical section problem?
7. Define paging.
8. What is fragmentation? Write its types.
9. What is virtual memory?
10. Write any four file operations.
11. Define seek time and latency time.
12. Write the linux command formats.

SECTION - B

II. Answer any Six questions. Each question carries 5 marks. (6×5=30)

13. Write functions of operating system.

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14. Explain process states with neat diagram.

15. Explain dining philosophers problem.

16. Calculate the average waiting time using with time slice of 3 ms using FCFS scheduling.

Process	Burst time In ms
P_1	24
P_2	3
P_3	3

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17. Difference between paging and segmentation.

18. Write about different file access methods.

19. Write features of LINUX.

20. Write any five file related commands with example.

SECTION - C

III. Answer any Three questions. Each question carries 10 marks. **(3×10=30)**

21. Explain types of operating system.

22. Consider the following set of processes with CPU burst time in ms.

Process	CPU burst time
P_1	5
P_2	10
P_3	6
P_4	2

Draw the Gantt chart and find average waiting time, Turnaround time using SJF algorithm.

23. Consider the reference string 7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7. Find page fault rate using FIFO and optimal page replacement algorithm.

24. Explain any four disk scheduling algorithms.

25. a) Explain Directory structure. **(5)**

b) Briefly explain linux system architecture. **(5)**