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DCCA301

Reg. No.

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III Semester B.C.A. Degree Examination, February/March - 2024

COMPUTER SCIENCE

Operating Systems

(NEP 2021 Scheme)

Paper : CA-C11T

Time : 2½ Hours

Maximum Marks : 60

Instructions to Candidates:

Answer all sections.

**SECTION - A****I. Answer any FOUR questions. Each question carries 2 marks. (4×2=8)**

1. Define operating system. List the services provided by the operating system.
2. What do you mean by booting?
3. Define semaphore. Mention the types.
4. What is logical and physical address space?
5. What is page fault?
6. What are file attributes? List any two attributes.

SECTION - B**II. Answer any FOUR questions. Each question carries 5 marks. (4×5=20)**

7. Define system call. Explain in detail.
8. Explain the different process states with a neat diagram.
9. Define deadlock. Explain briefly the necessary conditions for deadlock.
10. Explain resource allocation graph with neat diagram.
11. Explain fragmentation.
12. Explain optimal page replacement algorithm.

[P.T.O.]



SECTION - C

III. Answer any **FOUR** questions. Each question carries **8** marks.

(4×8=32)

13. Explain FCFS scheduling algorithm and calculate average waiting time, Turn around time for the following problem.

Process	Burst time
P1	24
P2	3
P3	3

14. Explain Dining Philosopher problem.
15. Explain Banker's algorithm.
16. Explain different file allocation methods.
17. Explain SSTF disk scheduling algorithm.
18. Explain directory structures.
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