



**2021/TDC/CBCS/ODD  
CSCDSC/GE-301T/088**

**TDC (CBCS) Odd Semester Exam., 2021  
held in March, 2022**

**COMPUTER SCIENCE**

**( 3rd Semester )**

Course No. : CSCDSC/GE-301T

**( Operating System )**

*Full Marks : 70*

*Pass Marks : 28*

*Time : 3 hours*

*The figures in the margin indicate full marks  
for the questions*

**SECTION—A**

Answer any *twenty* of the following questions :

1×20=20

1. Define OS.
2. Name two system calls.
3. What do you mean by resource abstraction?
4. What is multithreading?



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5. What is Kernel?
6. Define process.
7. State the difference between process and thread.
8. What is preemptive scheduling?
9. What do you mean by short-term scheduler?
10. What are thread libraries?
11. What is process synchronization?
12. What are two atomic operations of semaphore?
13. Define deadlock.
14. What do you mean by IPC?
15. What is critical section problem?
16. Write one function of memory management.
17. What is segmentation?
18. What are logical and physical addresses?

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19. Define compaction.
20. What does page table contain?
21. What are file directories?
22. What is bit table?
23. What are file attributes?
24. What is file authorization?
25. What are file protection methods?

SECTION—B

Answer any five of the following questions :  $2 \times 5 = 10$

26. What is the purpose of system programs?
27. Distinguish between single-user OS and multiuser OS.
28. What is PCB? What does PCB contain?
29. What do you mean by context switching?
30. How can a deadlock be prevented?
31. List the requirement to solve critical section problem.

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( Turn Over )



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32. What are the differences between internal and external fragmentation?
33. How does page fault occur?
34. How is authentication achieved in OS?
35. Write down the disadvantages of sequential access of memory.

SECTION—C

Answer any *five* of the following questions :  $8 \times 5 = 40$

36. Discuss different types of operating system.
37. What are different modes of operations of operating system? Explain briefly. What is the need of such dual mode in an operating system?
38. With a neat diagram, explain the life cycle of a process.
39. Explain FCFS and SJF process scheduling algorithms.
40. Explain resource allocation graph with an example. Also draw one resource allocation graph with a cycle but no deadlock.

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41. Explain the necessary conditions for deadlock occurrence.
42. Explain the following :
  - (a) Swapping
  - (b) Paging
43. What is virtual memory? How can it be implemented? What are its benefits?
44. Discuss about different file allocation methods.
45. Discuss different directory structures of file.

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