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

IV Semester B.C.A. 6 Degree Examination, August/September - 2024
OPERATING SYSTEM CONCEPTS
(Regular/Repeater)

Time : 2 Hours **Maximum Marks : 60**

Instructions to Candidates :

1. Draw neat **diagrams** wherever necessary.
2. All Sections are **compulsory.**

SECTION - A

I. Answer any **TEN** of the following. **(10×2=20)**

1. What is an operating system?
2. What is multi programming operating system?
3. Define schedulers. List its types.
4. Define thread. List its types.
5. What is turnaround time and waiting time?
6. Define race condition.
7. What is deadlock?
8. What is thrashing?
9. What is logical address?
10. What is Fragmentation?
11. Define File. List its attributes.
12. List the operations on File.

SECTION - B

II. Answer any **FOUR** of the following. **(4×5=20)**

13. With a neat diagram explain PCB.
14. Explain the benefits of threads.
15. Explain necessary conditions for deadlock.

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16. Consider the following page reference string

    1, 0, 7, 1, 0, 2, 1, 2, 3, 0, 3, 2, 4, 0, 3, 0, 2, 1, 0, 7

    Assume 3 frames, calculate number of page fault using FIFO and LRU page replacement technique.

17. Explain linked list method of free space management.

SECTION - C

III. Answer any **TWO** of the following. **(2×10=20)**

18. Explain Batch operating system and time sharing operating system.

19. Consider the following set of processes with the length of CPU burst time in milliseconds.

Process	Burst Time
P1	3
P2	1
P3	3
P4	4
P5	2

    Draw Gantt chart illustrating the execution of these process using FCFS and round robi (qauntum time - 1msec) scheduling method.

20. Explain the following:

    a) Operation on File **(5)**

    b) Attributes of File. **(5)**

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