



'समानो मन्त्रः समितिः समानी'

UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 3rd Semester Examination, 2021

CC6-COMPUTER SCIENCE (32)

OPERATING SYSTEM

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

GROUP-A

Answer any five questions from the following

1×5 = 5

1. What is an operating system?
2. What is the main purpose of an operating system?
3. What do you mean by a process?
4. What is paging in operating system?
5. What is deadlock?
6. Define spooling.
7. What is Belady's Anomaly?
8. What is Paging?

GROUP-B

Answer any three questions from the following

5×3 = 15

9. What is semaphore? Explain. Why is it used for? 2+3
- 10.(a) Give the differences between multiprogramming and multitasking. 3+2
(b) What is fragmentation?

11. Which are the necessary conditions to achieve a deadlock? Write the Banker's Algorithm to avoid deadlock. 2+3
12. Explain any two disk scheduling algorithms with example. 5
13. What do you mean by process scheduling? What is the difference between preemptive and nonpreemptive scheduling? Explain with examples. 2+3

GROUP-C

Answer any two questions from the following

10×2 = 20

14. Discuss the goals of each of the following storage management strategies in the context of virtual storage systems with paging.
- (a) fetch strategy
 - (b) placement strategy
 - (c) replacement strategy
- Now discuss FIFO and LRU page replacement strategies in brief.
15. Discuss Round Robin (RR) Scheduling and Multilevel Feedback Queues scheduling with proper examples.
16. Explain different memory allocations in fixed partition multiprogramming in single user system.
17. Write a short note on process control block. Discuss the security measures in UNIX operating system.

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