UNIVERSITY OF NORTH BENGAL
BCA Honours 3rd Semester Examination, 2023

CC6-BACHELOR OF COMPUTER APPLICATION (32)

OPERATING SYSTEMS

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 a shell?
2. When does page fault occurs?
3. What is SPOOLING?
4. What is "response time"?
5. What is Semaphore?
6. What is a internal fragmentation?
7. What is System call?
8. What do you mean by Long-term scheduler?

GROUP-B
Answer any *three* questions from the following   5×3 = 15

9. Describe thrashing. Explain the demand paging in memory management scheme.
10. Describe race condition, starvation and solution of starvation.
11. What do you mean by process? Draw the block diagram of Process Control Block. Write down the different process states.
12. Define deadlock with necessary conditions for a deadlock to occur.
13. Explain Belady's Anomaly with an example.

GROUP-C
Answer any *two* questions from the following   10×2 = 20

14. State a safety algorithm (to avoid deadlock) for finding out whether a system is in safe mode or not.
15. What is context switching? Why is it considered to be an overhead? What are the differences between process and thread?
16. Write short notes on any *two*:
    (i) Paging
    (ii) Segmentation
    (iii) Multiprogramming and Multitasking
    (iv) SCAN and C-SCAN disk Scheduling.
17. Discuss any two CPU scheduling algorithms with example.

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