



NS – 610

III Semester B.C.A. Degree Examination, Nov./Dec. 2016
(Scheme (CBCS)) (F+R)
(2015 – 16 & Onwards)
COMPUTER SCIENCE
BCA – 305 : Operating Systems

Time : 3 Hours

Max. Marks : 100

Instruction : Answer *all* Sections.

SECTION – A

Answer **any ten** questions.

(10×2=20)

1. What is an operating system ? Mention any two functions of an O.S.
2. Define time sharing systems.
3. What is aging ?
4. What is monitor ?
5. Define deadlock with an example.
6. Define compaction.
7. Define virtual memory.
8. Mention any four attributes of file.
9. What is a bit vector ?
10. Define seek time.
11. What is worm ?
12. Define logical and physical address.

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SECTION – B

Answer **any five** questions.

(5×5=25)

13. Explain states of a process with neat diagram.
14. Explain multi-programming system. Mention its advantages.
15. Explain the Critical-section problem.
16. Explain the Resource-Allocation graph.

P.T.O.



17. Compare first-fit, best-fit and worst-fit allocation of memory.
18. Describe the frame allocation algorithms.
19. Explain linked allocation method.
20. List any three goals of protection.

SECTION – C

Answer **any three** questions.

(3×15=45)

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| 21. a) Explain FCFS scheduling algorithm with an example and a Gantt chart. | 8 |
| b) Explain the different types of schedulers. | 7 |
| 22. a) Explain Banker's algorithm. | 8 |
| b) Explain different methods of deadlock prevention. | 7 |
| 23. a) Explain any two page replacement algorithm with an example. | 8 |
| b) Differentiate between paging and segmentation. | 7 |
| 24. a) Explain different file accessing methods. | 8 |
| b) Explain single level and two level directory. | 7 |
| 25. a) Explain any three disk scheduling algorithms with examples. | 9 |
| b) Discuss about the different types of viruses. | 6 |

SECTION – D

Answer **any one**.

(1×10=10)

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|---------------------------------|---|
| 26. Write short notes on : | |
| a) PCB. | 5 |
| b) Semaphore. | 5 |
| 27. Write short notes on : | |
| a) Overlays. | 5 |
| b) Dining-philosophers problem. | 5 |
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