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.

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.

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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)**

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)**

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