SN – 661

III Semester B.C.A. Degree Examination, November/December 2017
(CBCS) (F + R) (2015-16 and Onwards)
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 are the main functions of operating system.
2. What is Convoy effect ?
3. Differentiate process and program.
4. What is mutual exclusion ?
5. What are the necessary conditions for deadlock ?
6. What is compaction ?
7. Define virtual memory.
8. What is demand paging ?
9. Mention any four file operations.
10. Define seek time.
11. Write any two antivirus softwares.
12. What is disk formatting ?

SECTION – B

Answer **any five** questions : **(5×5=25)**

13. Explain time sharing system.
14. What is system call ? Explain types of system calls.

P.T.O.

15. Explain different process states with a neat diagram.

16. What is semaphore ? Explain different types of semaphores.

17. Explain Banker's algorithm.

18. Explain the terms first-fit, best-fit and worst-fit.

19. Explain LRU page replacement algorithm with an example.

20. What is virus ? Explain different types of viruses.

SECTION – C

Answer **any three** questions : **(3×15=45)**

21. a) Explain different types of schedulers.
    b) Explain FCFS and Round Robin scheduling algorithms with example. **(7+8)**

22. a) Explain different methods of deadlock prevention.
    b) Explain Dining-Philosophers problem. **(8+7)**

23. a) Write a note on segmentation.
    b) Explain any three disk scheduling algorithms with example. **(7+8)**

24. a) Write a note on file allocation methods.
    b) Explain various file accessing methods. **(8+7)**

25. a) Explain user authentication in detail.
    b) Write a note on fragmentation. **(7+8)**

SECTION – D

Answer **any one** question : **(1×10=10)**

26. Write short notes on :
    a) Multilevel queue scheduling.
    b) Operating system components. **(5+5)**

27. Write short notes on :
    a) Overlays.
    b) Optimal page replacement algorithm. **(5+5)**