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)