65323

Third Semester B.C.A. Degree Examination,
November/December 2019

(CBCS Scheme)

Computer Science

OPERATING SYSTEM

Time : 3 Hours] [*Max. Marks : 100*

Instructions to Candidates : Answer ALL Sections.

SECTION – A

Answer any **TEN** questions. Each carries **2** marks : **(10 × 2 = 20)**

1. Define batch processing.

2. Define virtual machine.

3. What is context switching?

4. What is test and set instruction?

5. List the methods for handling deadlocks.

6. What is mutual exclusion?

7. Define effective access time.

8. Differentiate between global replacement and local replacement.

9. List the advantage of linked allocation.

10. What is rotational latency?

11. Write the taxonomy of malicious software.

12. What is booting?

SECTION – B

Answer any **FIVE** questions. Each carries **5 marks** :   **(5 × 5 = 25)**

13. Explain operating system services.

14. Explain process control block.

15. Describe monitors.

16. Explain resource allocation graph.

17. Explain swapping.

18. Explain demand segmentation.

19. Explain contiguous allocation.

20. Explain type of viruses.

SECTION – C

Answer any **THREE** questions. Each carries **15 marks** :   **(3 × 15 = 45)**

21. (a) Explain operating system components.   **(8)**

    (b) Explain FCFS CPU scheduling algorithm. Draw the Gant Chart for the following process :   **(7)**

Process	Burst Time
P_1	18
P_2	20
P_3	09
P_4	07

    Calculate the average waiting time and average turnaround time.

22. Explain classic problems on synchronization.   **(15)**

23. (a) Define paging. Explain paging hardware.   **(7)**

    (b) Explain demand paging.   **(8)**

24. (a) Write the file attributes. (5)

    (b) Explain file operations. (5)

    (c) Explain directory structure. (5)

25. (a) Explain user authentication. (8)

    (b) Explain LRU page replacement algorithm with example. (7)

SECTION – D

Answer any **ONE** question. Each carries **10** marks : (1 × 10 = 10)

26. Explain Banker's algorithm. (10)

27. (a) Explain CPU scheduling criteria. (5)

    (b) Explain process state. (5)