2021/TDC/CBCS/ODD/
CSCHCC–303T/087

TDC (CBCS) Odd Semester Exam., 2021
held in March, 2022

COMPUTER SCIENCE

(3rd Semester)

Course No. : CSCHCC–303T

(Operating System)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

SECTION—A

Answer any *ten* of the following questions : 2×10=20

1. Briefly explain operating system (OS) as an extended machine.

2. Briefly explain time sharing and batch processing system.

3. What are kernel and shell?

4. What is thread? State the difference between process and thread.

5. Briefly explain preemptive scheduling. Give a suitable example.

6. Briefly explain FCFS scheduling technique.

7. Define inter-process communication.

8. Define concurrent process.

9. Define critical section.

10. What is the difference between physical address and virtual address?

11. What is virtual memory?

12. What is segmentation?

13. What is device controller?

14. Briefly explain acyclic graph directory.

15. Briefly explain the sequential file access method.

SECTION—B

Answer any *five* of the following questions : 10×5=50

16. What is operating system? Explain the functions of operating system. What are the different modes of operation of operating system?

17. What is system call? Explain the types of system call. What is the purpose of system program?

18. What is process scheduling? State the difference between preemptive scheduling and non-preemptive scheduling. Explain SJN (Shortest Job Next) and round-robin scheduling.

19. Explain the process state with neat diagram. What are process creation and process termination?

20. What is deadlock? State the four necessary conditions for deadlock. Explain deadlock detection and deadlock prevention.

21. What is semaphore? What are the types of semaphore? Explain the various methods of inter-process communication.

22. What is memory management? Explain memory management techniques.

23. What is paging? Why is paging used? Explain demand paging in operating system.

24. Define directory structure. Explain in brief the various file allocation methods in operating system.

25. Explain the techniques of sharing of files among multiple users in multiple locations with appropriate protection and security.

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