



21100312

QP CODE: 21100312

Reg No :

Name :

B.Sc DEGREE (CBCS) EXAMINATION, FEBRUARY 2021

Fifth Semester

B.Sc Computer Science Model III

Core Course - CC5CRT04 - SYSTEM SOFTWARE AND OPERATING SYSTEM

2017 Admission Onwards

170D5DCD

Time: 3 Hours

Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. What do you mean by binding?
2. What are declaration statements?
3. What is the difference between linker and loader?
4. What is absolute loader?
5. What is an operating system?
6. Operating system is known as a resource manager. Why?
7. Name any two classical problems of process synchronization.
8. What is a semaphore?
9. What is resource allocation graph?
10. What is meant by page fault?
11. What is a file system?
12. What are the problems faced by contiguous allocation?

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Explain derivation, reduction and parse trees.





14. Explain with a neat diagram the main data structures of the assembler.
15. Explain the operation of a deterministic finite state automaton (DFA).
16. Explain different code optimization techniques.
17. Differentiate Multiprogramming and Multitasking.
18. Explain the scheduling criteria of CPU scheduling algorithm.
19. How can the circular wait condition be prevented?
20. Explain the data structures used in Banker's algorithm.
21. With a neat diagram briefly explain swapping of two processes using a disk as a backing store.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Explain top down and bottom up parsing with examples.
23. Explain how process management done in operating systems.
24. Explain various strategies to deal with deadlocks. How deadlocks are detected and recovered?
25. Discuss segmentation in detail. Compare it with paging.

(2×15=30)

