

E 5365

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Reg. No.....

Name.....

B.C.A. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2018

Fifth Semester

Core Course—OPERATING SYSTEMS

(2013 Admission onwards)

Time : Three Hours

Maximum Marks : 80

Part A

Answer all questions.

Each question carries 1 mark.

1. Distinguish between CPU burst and I/O burst.
2. What are sockets ?
3. Differentiate medium term scheduler and long term scheduler.
4. What is a CS problem ?
5. What is Dining Philosopher's problem ?
6. What is internal fragmentation ?
7. What do you mean by a system call ?
8. What is turn around time ?
9. What are threads ?
10. What is the function of a loader ?

(10 × 1 = 10)

Part B

Answer any eight questions.

Each question carries 2 marks.

11. What is demand paging ?
12. Explain the process state diagram.
13. Compare and contrast the features of multiprocessor and time sharing systems.
14. What is an RRAG/RAG ?
15. What is producers-consumers problem ?
16. Differentiate logical address and physical address.

Turn over

17. Explain how multiprogramming increases the utilization of CPU ?
18. Briefly discuss single-level and two-level structural directories.
19. Discuss Round Robin scheduling policy.
20. What are the attributes of a file ?
21. Distinguish between symmetric multiprocessing and asymmetric multiprocessing.
22. What are the contents of PCB ?

(8 × 2 = 16)

Part C

*Answer any six questions.
Each question carries 4 marks.*

23. What are the different types of memory fragmentations ? What is the solution to it ?
24. By illustrating the structure of process, say PI, explain the Petersons solution to critical section problem.
25. What is thrashing ? What is the cause of thrashing ? How does the system detect thrashing ? What is the system do to eliminate this problem ?
26. What are the advantages of inter-process communication ? How communication takes place in shared-memory environment. Explain.
27. Explain the functions of an operating system.
28. Discuss about different file access methods.
29. Explain the basic concepts of semaphores and monitors.
30. What are the criteria for evaluating the CPU scheduling algorithms ? Why do we need it ?
31. How memory protection and allocation are implemented in contiguous memory ?

(6 × 4 = 24)

Part D

*Answer any two questions.
Each question carries 15 marks.*

32. Explain about various page replacement algorithms.
33. Discuss and distinguish between the various CPU scheduling algorithms with suitable example.
34. Explain with the help of necessary diagrams the file system implementation ?
35. Discuss the various deadlock handling techniques.

(2 × 15 = 30)