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**DEPARTMENT OF BBA[COMPUTER APPLICATION]**

**Question Bank**

**Name of Subject-Operating System Concept**

1.What is Semaphores ?

2.What is Process ?

3.What is the purpose of command interpreter ?

4.Define Burst Time.

5. Define Swap Time.

6.What is Deadlock.

7.Define System Program. Define Rollback.

8.What is Turn-Around Time ?

9.What is CUP-I/O Brust Cycle

10.List and explain system calls related to process and job control.

11. Describe solution for critical section problem.

12.Explain multilevel feedback queue algorithm.

13.Explain different methods for recovery from a deadlock.

14Consider the following set of processes with the length of CPU Burst Time and Arrival Time : Process Burst Time Arrival Time P1 5 1 P2 3 0 P3 2 2 P4 4 3 Calculate turn around time, waiting time, average turn around time, average waiting time using FCFS CPU scheduling algorithm.

15.Explain medium term schedular.

16.Explain Direct Access method with advantages and disadvantages.

17.Explain the dirty bit concept.

18.Explain process states in detail.

19.Consider the following page reference string : 7, 5, 4, 9, 4, 7, 8, 5, 3, 4, 7, 9, 7, 4 Find the number of page fault for the following algorithm with 3 frames :

1. FIFO
2. (ii) MFU.

20.Explain the reader’s writer’s problem which is a classical problem of synchronization.

21.Explain free space management of file system in detail.

22.Describe I/O Hardware with its type of I/O devices.

23.What is fragmentation ? Explain types of fragmentation in details.

24.Consider the following Job queue : Job Memory Time 01 100 K 8 02 90 K 3 03 30 K 17 04 50 K 04 05 40 K 09 Show the memory map of various stages by using MVT scheduling. Assumption total memory is of 400 K and monitor of 100 K and all jobs are arrived at same time.

25.Explain Resource Allocation graph in detail.

26.Explain the term ‘‘Overlays’’ in detail with diagrams.

27.List and explain services provided by the operating system

28.Explain contiguous memory allocation method in detail. [5363]-303 4 (e) The request queue is a follows : 87, 148, 92, 171, 96, 131, 103, 71 Number of tracks = 0 to 199 Starting position or current head position = 125. Find total head movement by applying SSTF (Shortest seek time first) Disk scheduling algorithm.

29.What is multiprogramming ?

30.Define waiting time.

31.Define dispatcher.

32.What is dynamic loading ?

33.What is page fault ?

34.What is safe sequence ?

35.What is the role of valid and invalid bits in demand paging

36.List and explain advantages of multiprocessor system.

37.Explain multilevel queue algorithm.

38.Explain demand paging in detail.

39.Explain sequential access method.

40.Calculate average turn around time and average waiting time for all set of processes using FCFS algorithm : Process Burst Time Arrival Time P1 3 1 P2 5 0 P3 9 4 P4 6 5

41.List and explain solution to the critical section problem.

42.Discuss services provided by operating system.

43.Explain the use of DMA

44.Discuss any two types of system calls.

45.What is free space list ? Explain the methods of free space management. (b) Explain different states of processes. (c) Explain long term scheduler in detail. (d) Discuss various characteristics for handling deadlock.

46.Consider the following segment table : Segment Base Length 0 363 500 1 1272 20 2 1675 1500 3 986 240 4 211 130 What are the physical addresses for the following logical addresses : (i) 0,425 (ii) 2,500 (iii) 3,285 (iv) 4,125. List and explain basic operations on file.

47.Explain time sharing system with an example.

48.Assume there are total 0—199 tracks that are present on each surface of the disk. If request queue is : 68, 172, 4, 178, 130, 40, 118, 136 and initial position of the head is .25. Apply FCFS disk scheduling algorithm and calculate total head movement.

49.Consider the five processes P0 , P1 , P2 , P3 , P4 and three resources R1 , R2 , R3 : Allocation MAX Available 1 2 3 0 1 2 3 4 R R R P 0 1 0 P 2 0 0 P 3 0 2 P 2 1 1 P 0 0 2 1 2 3 R R R 7 5 3 3 2 2 9 0 2 2 2 2 4 3 3 1 2 3 R R R 3 3 2 Answer the following questions using Banker’s algorithm : (i) What are the contents of need matrix ? (ii) Is the system in a safe states ? Find the safe sequence.

50. Consider the five processes P0 , P1 , P2 , P3 , P4 and three resources A, B, C : Allocation MAX Available A B C A B C A B C P0 0 3 2 6 5 4 3 4 4 P1 1 2 0 4 4 4 P2 0 0 0 0 0 1 P3 3 3 2 3 9 3 P4 1 4 3 2 5 3 Answer the following questions using Banker’s Algorithm : (i) What is the contents of need matrix ? (ii) Is the system in a safe state ? Find the safe sequence.