

Question No: 31 ( Marks: 2 )

When a process is rolled out of memory, it loses its ability to use the CPU (at least for a while). Describe another situation where a process loses its ability to use the CPU, but where the process does not get rolled out.

Where the Infinite loop starts it also be the cause to suspend the CPU from working situation to idle stat.

Question No: 32 ( Marks: 2 )

How can you achieve memory protection in paging?

memory protection in paging is achieved by associating protection bits with each page. these bits are associated with each page table entry and specify protection on the corresponding page.

Question No: 33 ( Marks: 2 )

What is the basic function of pipe system call?

the pipe system call creates a pipe and returns two file descriptors, one for reading and second for writing.

Question No: 34 ( Marks: 2 )

Provide names of common file structures.

Question No: 35 ( Marks: 3 )

What is the structure of Two-Level Page Table?

Question No: 36 ( Marks: 3 )

Ignoring CPU overhead, what are the three primary components of disk access time (the time from the request of a sector to the time that it is available to the CPU). Given a transfer of a single sector, rank them according to their relative average cost.

Question No: 37 ( Marks: 3 )

Calculate the Average Waiting Time for four processes. Assume that Processes come in the sequence of P1,P2,P4, P3 at time=0 and scheduling algorithm applied is FCFS.

Processes	CPU Burst
P1	4
P2	1
P3	3

P4 2

Question No: 38 ( Marks: 3 )

What do you think that why Main Memory is kept as a volatile memory and why not a permanent storage device?

In my view the Main memory is volatile because it has to maintain current and pending jobs to do till job done it kept data then transfers to the permanent storage device but the permanent storage has to only store the data so that's why data can't be on stack always all data can't be in working.

Question No: 39 ( Marks: 5 )

Briefly explain Thrashing as it pertains to main memory management.

A process is thrashing if it is spending more time paging than executing. thrashing results in severe performance problems: low CPU utilization, high disk utilization, low utilization of other I/O devices.

Question No: 40 ( Marks: 5 )

Summarize the tradeoffs among simple arrays, trees, and hash tables as implementations of a page table.

Question No: 31 ( Marks: 2 )

Under what conditions can you use the Wait-for graph to detect deadlock?

**ANS:**

We use wait-for graph in a condition if all the resources have only a single instance, then we use deadlock detection algorithm that uses a variant of the resource allocation graph.

Question No: 32 ( Marks: 2 )

List the four events that cause the execution of a piece of code in kernel.

**Ans:**

List the four events that cause the execution of a piece of code in kernel:

Interrupt

Trap

System call

signal

**Question No: 33 ( Marks: 2 )**

What is basic logic in FIFO page replacement algorithm?

**Question No: 34 ( Marks: 2 )**

The problem with using an acyclic-graph structure is ensuring that there are no cycles. What is the solution?

**Question No: 35 ( Marks: 3 )**

What are the three different stages/times when the addresses can be bound to instructions and data?

**Question No: 36 ( Marks: 3 )**

What is Mounting? Name two types of mounting. Give your answer with respect to File System?

**Question No: 37 ( Marks: 3 )**

List down two major benefits of Virtual Memory

Ans:

1-Users would be able to write programs for an extremely large virtual address space which simplify the programming task.

2- less input and output needed to load or swap each user program into memory, so each user program would run faster.

**Question No: 38 ( Marks: 3 )**

Write three main responsibilities of an operating system?

Ans:

manage secondary storage devices

manage processes

allow a user to manage files and directories properly

**Question No: 39 ( Marks: 5 )**

Briefly explain the difference Least frequently used and Most Frequently Used algorithms with respect to Page Replacement techniques.

Ans:

**Question No: 40 ( Marks: 5 )**

Calculate the maximum no. of bits required for page number and no. of bits required for frames when there are 16 pages and 32 frames in the system?