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IT 2300 Operating Systems

Mid-Term Exam 2

Part 1 of 2

This exam is CLOSED BOOK, CLOSED NOTES, CLOSED HOMEWORK

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Chapters 1 - 8

Complete on this Microsoft Word® document.

1. Discuss Magnetic Disk Storage, including those numeric parameters that allow one to determine the efficiency of using a device. (30 points)

Magnetic disk storage is also known as computer hard drives. Within this there are disk packs, and these are magnetic platters, and their purpose is to read, write, and store data. There are three times that go along with disk storage. First is seek time which is the slowest, search time has a delay within it and transfer time which is the fastest. The best overall file access time factors is transfer and search time. Within the transfer time it allows the second storage to the main memory transfer memory at the same time which allows for easy access and smooth flowing movement within the system. The magnetic disk needs three things; cylinder, surface, and sector numbers. These are numbers are used to determine what file access time is best to use for the certain task or job.

1. Discuss Multiprogramming and Multiprocessing. (20 points)

Multiprocessing is like multiprogramming. Multiprocessing happens within three levels. This processing happens during the job, process, and thread level. Within the job level it has its own processor, and all the processes and threads are run by the same thing. Process level does it independently from the job. Thread level can be assigned to any available processor. Each level needs and requires synchronization. Thread level needing the highest degree of synchronization and job level needs little to no synchronization. Multiprogramming allows the processes to execute a number of programs using different processors.

1. Discuss Concurrent Processing and Parallel Processing. (20 points)

Concurrent processing is another form of multiprocessing. This is a form of parallel processing. There are two forms data level and instruction level systems. Concurrent shares data area and resources with other processors to allow the system to work more smoothly. Parallel processing is when there are two or more processors within one system. The way I remember this is because for anything to be parallel there needs to be at least two. Some positives that go with parallel processing is that it is very reliable and because it uses two processor within one system it is allows for fast processing.

