1. When a system has multiple levels of cache memory, L2 always has more memory than L1. Why is this necessary?
2. Explain how pipelining serves to reduce the average number of steps in the execution part of the fetch-execute cycle.
3. In general, what purpose does an interrupt serve? Stated another way, suppose there were no interrupts provided in a computer. What capabilities would be lost?
4. Consider the interrupt that occurs at the completion of a disk transfer.
   1. ‘‘Who’’ is interrupting ‘‘whom’’?
   2. Why is the interrupt used in this case? What would be necessary if there were no interrupt capability on this computer?
   3. Describe the steps that take place after the interrupt occurs.
5. Describe the steps that occur when a system receives multiple interrupts.
6. What is the difference between polling and polled interrupt processing?
7. Explain the major differences between TCP and UDP. Explain how an Ethernet frame provides synchronization between sender and receiver nodes.
8. Identify and briefly explain the four fundamental topologies used in networks.
9. Explain the Client – Server network architecture. What the difference with a Peer-to-Peer network?
10. Explain *dispatching*. Describe the two basic methods that are used by operating systems to implement dispatching.
11. Explain the concept of a *process*. How does a process differ from a program? Explain *concurrent processing*. Briefly describe at least two services that an operating system must provide to support concurrent processing.
12. What is the fundamental purpose of any operating system? What is the role of the file manager? What other basic functions must the operating system be able to perform?
13. What features characterize threads? How are threads used? Explain *deadlock*. What are the three possible ways that an operating system can handle the issue of deadlock?