Question 1: What type of organizational style is the most appropriate for project management?

Answer 1: Project management is used by those organizations that are proactive in their approach to the various aspects of a project (i.e., planning, monitoring, tracking, and managing people, the time, the budget, and quality). These organizations integrate negotiation techniques, good communication, and analytical skills into project management. Generally, organizations that work on large, long-term projects should use project management. In some cases, project-oriented firms run redundant operations to maximize management effectiveness on a project. An example of this type of firm is one involved in heavy construction industry. These firms set up entire organizations just to manage all aspects of an enormous project.

Question 2: How do you determine the critical path?

Answer 2: You determine the critical path by adding up all the paths from start to finish. The longest path without any slack is the critical path. A delay in the critical path delays the entire project.

Question 3: Do any noncritical activities ever become critical? Why?

Answer 3: They can become critical activities. Should a time line for a noncritical activity need to be extended, it could very well cause that single path to become a critical path with no float time. For example, a noncritical activity can become critical when personnel working on an activity can no longer work on it. This could result in the activity taking longer because you may have to contract out for the expertise or bring others up to speed internally on the activity so that they can continue.

Question 4: How do I determine what is an activity, task, or job in a project?

Answer 4: An activity is a miniprocess, that together with others, constitutes a building block of a process. Activities occur so that the output of one becomes the input the next. They are the tasks that need to be completed to finish the project. Tasks are what must be completed to produce all the deliverables stated in a statement of work. For instance, a statement of work outlines three major deliverables—design, lawn, and fence. Tasks are what must be done to complete the design, lay down a lawn, and build a fence.

Question 5: How do I determine the slack or float time for an activity?

Answer 5: Float, or slack time, for an activity is the leeway time that exists within noncritical path tasks. It is the difference between the late finish and early finish times on a noncritical path. To compute slack time, you need to determine the following:

- Early start time (EST): The earliest time a task can be started
- Early finish time (EFT): The earliest time a task can be completed (adding up all the EFTs and their work processes)
- Late finish time (LFT): The latest times that an activity can be completed without delaying the remaining process
- Late start time (LST): The latest time an activity can be started as not to delay a project beyond the late finish time (LFT)

Slack/float time is calculated as follows:

$$LST - EST = LFT - EFT$$

Question 6: If I do a time-cost trade-off analysis by hand, can I still crash an activity?

Answer 6: When you expend more resources because you need to reduce the project time, you are crashing the project. There are two components to a project cost and time. Crash costs results from reducing the activity time. Crash time results when an activity time is lessened. Indirect costs increase as the duration of the project increases. An activity can be crashed only if the crashing costs are less than the indirect costs (incurred whether work is done or not). Direct costs are directly related to the activity. Crash cost is calculated as follows:

Total crash cost / Total crash time

For example, if an activity takes 10 hours at a cost of US$2,000, the crash costs equal US$200 per hour.

US$2,000 / 10 = $US200