1. What is computerized project management? Why is it necessary?

Computerized Project Management is a means of easily maintaining Project records and communications in a digital format.

Project management software has the capacity to help plan, organize, and manage resources and develop resource estimates. Depending on the sophistication of the software, it can manage estimation and planning, scheduling, cost control and budget management, resource allocation, collaboration software, communication, decision-making, quality management & documentation.

- The use of computers in planning, monitoring and controlling **fast track projects** is well known.
- Projects are **complex**; involve numerous activities, all of which must be executed within the **constraints of time**, **cost and quality**. This requires scientific techniques of project management.
- Computer based project management software techniques have become indispensable for efficient & effective management of large & complex projects.
- Project Managers can use powerful project management software for **efficient planning and scheduling** construction projects.
- They can **set baselines** and revise their plan as per requirement.
- Scheduling and Costing resources have become **faster and easier** by the use of computers.
- Computerized reporting can be designed & **project management information** can be set up using the project management tools.

Thus, it has become imperative for Project Managers, Planners, Executives and Engineers to become proficient in the use of computers for project management.

2. What are the functions of computerized project management?

Scheduling

One of the most common project management software tool types is scheduling tools. Scheduling tools are used to sequence project activities and assign dates and resources to them. The detail and sophistication of a schedule produced by a scheduling tool can vary considerably with the project management methodology used, the features provided and the scheduling methods supported. Scheduling tools may include support for:

- ➤ Multiple dependency relationship types between activities
- ➤ Resource assignment and leveling
- Critical path
- ➤ Activity duration estimation and probability-based simulation
- ➤ Activity cost accounting

Providing information

Project planning software can be expected to provide information to various people or stakeholders, and can be used to measure and justify the level of effort required to complete the project(s). Typical requirements might include:

- ➤ How long tasks will take to complete.
- > Early warning of any risks to the project.
- ➤ Information on workload, for planning holidays.
- > Evidence.
- ➤ Historical information on how projects have progressed.
- Optimum utilization of available resource.
- Cost maintenance.
- Collaboration with each teammates and customers.
- Instant communication to collaborators and customers.

3. Explain the tasks that can be computerized?

Budgets and Real-Time Cost Accounting. The software readily displays the budget for any given project task (e.g., paving a parking area), including a breakdown of planned labor, materials, and equipment costs. These budgeted amounts are then compared with the amount actually spent to determine whether the project, on a daily basis, is above, on, or below budget.

Resources Management. A major management objective is to ensure that labor and equipment are allocated to all of these projects efficiently so that there is a minimum of manpower or equipment idleness.

Recording Field Data Electronically. In the past, project foremen were required to submit daily paper time sheets, which indicated important project cost-accounting data such as hours worked for specific workers, hours utilized for specific pieces of construction equipment, quantities of materials used, and amount of work accomplished. All data formerly handwritten on the time sheets are now entered into devices and stored electronically. This method saves time and reducing errors.

Company Cash-Flow Analysis. The program keeps track of the specific times that cash is expected to flow out of (expenditures) or flow into (revenues) the company and identifies those periods when there will be a company cash deficit. Company management is then able to plan corrective actions, such as arranging an increase in its bank credit line to cover money needs for those periods. The program also enables the company to calculate anticipated finance charges for borrowing money during cash-deficit periods and to bill them to a specific project.

Managing Project Change Orders. Change orders, which are contractor requests for additional reimbursement for work not covered in the original contract. To keep track of all change orders on a project, store them, and print out a single report for the client that details all changes.

4. What are the types of project management software?

There are different ways in which project management software is made available by vendors and service providers.

Desktop

Firstly, organizations can buy it as a desktop package, and this typically gives the most responsive and graphically-intense style of interface. Desktop project management applications typically store their data in a file, although some have the ability to collaborate with other users, or to store their data in a central database. Multiple users can share file-based project plans or data held on a database, if only one user accesses it at a time.

Client Server

Server-based collaborative project management applications are also available. These are designed to support multiple users who are working on different parts of a project. Server-based project management systems hold data centrally and can also incorporate collaboration tools so that users can share knowledge and expertise.

Integrated

An integrated system combines project management or project planning, with many other aspects of company activities. For example, projects can have bug tracking issues assigned to each project; or the list of project customers can become a customer relationship management module, with each person on the project plan having their own task lists, calendars, and messaging functionality associated with their projects.

Web-based

Project management software can be implemented as a web application. This is accessed through an intranet or extranet, or the internet itself, using a web browser. Benefits of web-based project management applications include the fact that they can be accessed from any type of computer without installing software. The software is also automatically updated and maintained by the service provider, and the nature of the system makes it naturally multi-user. Also, web-based software tends to come with a monthly charge which is cheaper than buying and maintaining the application yourself. However, web-based project software tends to be slower to respond than desktop applications, and project information is not available when the user is offline.

5. Name few project management softwares.

- **Microsoft Project** is one of the more popular packages and it now offers a web interface and deep Office, Outlook and Share point integration.
- Matchware MindView has an easy-to-use spreadsheet-like layout, and its mind map option lets you see your project in visuals, reminiscent of brainstorming bubbles.
- **Project Kickstart** is an easy-to-use project management package that integrates with other applications like PowerPoint, Outlook, Excel, Word, Microsoft Project, and ACT!.
- RationalPlan Multi Project has features to manage resources and budgets as well as multiple projects. It has an interactive Gantt chart
- **Basecamp** is a low-cost web-based project management and collaboration package which is gaining momentum