a) **Information Technology project planning requirements as applied in project management:**

IT project planning as applied in project management is the process of developing a clear plan for which shows a clear path or direction for successful achievement of an IT project. The plan is there for completion of an IT project. The requirements for IT project planning include: The requirements for IT project planning include:

Project goals: Also termed as project objectives. An IT project always aims to solve a specific problem or challenge which can be a main objective. The objective is the final deliverable of project and it need to follow the SMART rule, that is the objective need to be specific, measurable, achievable, realistic and timely. To achieve this rule the objective can be divided into simpler objectives called specific objectives.

Project scope: The scope defines the boundaries of the project, this answers the question of how far the project will go and cover. Example if an IT project concerns a mobile application the team may question themselves will it cover both android and iOS platforms. The scope should be clear and well-defined to avoid scope creep, which can increase project costs and delay the completion of the project.

Stakeholders of the project: This include the personnel's entitled to the project they include sponsors, customers team members and vendors. Stakeholders are the one making the project alive and should be connected for the successful completion of the project. The stakeholders' needs and expectations should be considered during the planning process to ensure that the project is aligned with their requirements.

Project resources: This include elements used to develop an IT project product. This may include human resource, productive tools, and software libraries. These resources should be identified and allocated appropriately to ensure that the project is completed successfully.

Time frame: Any IT project need to be planned with a timeline. The timeline indicates the milestones to be achieved as the production process continues. Including start and end dates, critical path analysis, and resource allocation. It helps in identifying potential risks and managing the project efficiently.

Risk Management: It is essential to identify, assess, and manage risks associated with the project. A risk management plan should be in place to ensure that risks are mitigated before they impact the project.

Quality Management: Quality management involves ensuring that the project's deliverables meet the specified quality standards. It should be integrated into the project plan from the beginning and monitored throughout the project's life cycle.

In order to successfully manage an Information Technology project, thorough planning is required. This planning involves the identification of project goals, objectives, stakeholders, scope, resources, and potential risks. Project managers must also consider factors such as timelines, budgets, and communication strategies. Effective project planning is critical for ensuring that the project is completed on time, within budget, and to the satisfaction of all stakeholders.

b) **Explanation on technical project execution as applied in Information Technology projects.**

Technically IT projects are executed in series of stage from its initial conception to it end. These series of stages are generally called SDLC that is short form of System or Software Development Life Cycle, which provides a series of steps to be followed to design and complete an IT projects. So the technical execution include the following steps:

Initiation stage: This is first stage in execution, it came from a good idea, observation or analysis of business need, external requirements on the business and leads to the general concept of an IT project, which can be a new information system or software development.

Feasibility study: In this stage the team analyzes if a project is feasible in various aspects that is if the project is financially, practically, and technologically feasible for the organization to take up. There are many algorithms available, which help the developers to conclude the feasibility of a software project. This stage is the result of general concept of the project and it leads to generation of feasibility report and recommendation to proceed.

System Analysis: In this stage is where the functional and non functional requirements of the project are determined. Functional requirements are the features and functions that a project must must adhere to meet the needs of its users while non-functional requirements are the constraints and characteristics that define how the system or software application should operate. This stage is the result of feasibility report which leads to a detailed specification of the project.

Design: In this stage, the project team designs the system or application based on the requirements defined. This includes creating functional and technical specifications, defining data models and architecture, and developing user interface designs.

Development: This stage is also known as programming or coding phase. The implementation of software design starts in terms of writing program code in the suitable programming language and developing error-free executable programs efficiently.

Testing: Once the product is built, it is tested to ensure that it meets the functional and technical requirements specified in the design stage. Testing is done in multiple phases, including unit testing, integration testing, and system testing.

Deployment and maintenance: This stage marks the end of an IT project where by after the product is tested and approved, it is deployed into production. This involves configuring the system for use and making it available to end-users but maintenance makes it a continuous project where by it need to be maintained in it efficient and available all the time.

Generally, throughout the project, there are several key factors that contribute to successful project execution. These include effective communication among team members, stakeholder involvement, risk management, and quality assurance. By following these steps and ensuring that these key factors are addressed, IT projects can be executed successfully, meeting the needs of the stakeholders and achieving the desired outcomes.

c) **Monitoring and control measures of Information Technology projects.**

Monitoring and control keeps projects on track. The right controls can play a major part in completing IT projects on time. The data gathered also lets project managers make informed decisions. They can take advantage of opportunities, make changes and avoid crisis management issues. The following are the measure as to monitor and control Information Technology projects.

Establishing a Project Management Plan: A project management plan outlines the processes and procedures that will be used to manage the project. It includes project goals, deliverables, timelines, budget, and roles and responsibilities of team members. The plan provides a framework for monitoring and controlling the project.

Developing a Work Breakdown Structure (WBS): A WBS breaks the project down into smaller, more manageable tasks. It helps to identify critical path activities and dependencies, which are essential for monitoring progress.

Defining Project Metrics: Project metrics are quantitative measurements used to assess project performance. These metrics should be defined during the planning phase and tracked throughout the project. Examples of project metrics include budget variance, schedule variance, and resource utilization.

Regular Progress Tracking: Progress tracking involves regularly monitoring project performance against the established metrics. This includes analyzing data, identifying trends, and taking corrective action if necessary. Progress tracking should be done frequently, such as weekly or bi-weekly, and communicated to all stakeholders. **Risk**

Management: Risk management involves identifying potential risks to the project and developing strategies to mitigate those risks. It includes developing a risk management plan, regularly reviewing the plan, and taking corrective action as needed.

Change Management: Change management involves managing changes to the project scope, schedule, or budget. It includes developing a change management plan,

establishing a change control board, and tracking and communicating changes to all stakeholders.

Quality Assurance: Quality assurance involves ensuring that the project meets the defined quality standards. This includes developing a quality management plan, performing quality inspections, and implementing quality control measures.

Monitoring and control measures are essential for the successful completion of information technology projects. Other measures include tracking the progress of the project, identifying potential risks and issues, and implementing corrective actions to keep the project on track. By implementing effective monitoring and control measures, IT projects can be completed within budget and on time, while delivering the desired outcomes.

d) **Procurement and stakeholder's management as applied in Information Technology projects.**

Procurement involves acquiring all the necessary goods for completion of an IT project such as hardware, software while stakeholder management in IT projects involves identifying, analyzing, and prioritizing stakeholders and their needs throughout the project's life cycle. The following are ways in which procurement and stakeholder's management apply to IT apply project:

Procurement planning: The first step in successful project procurement management is making a plan. It involves identifying the resources that need to be procured, determining their cost, and developing a procurement plan that outlines how the resources will be obtained.

Vendor Selection and management: Vendor selection involves issuing requests for proposals (RFPs) or requests for quotes (RFQs) to vendors, evaluating vendor proposals based on various criteria, and selecting the vendor that best meets the project's requirements, once the vendor is selected, vendor management becomes an important aspect of procurement. This includes monitoring vendor performance to ensure that they are meeting their obligations, and managing vendor relationships to resolve any issues that arise.

Stakeholder Engagement: IT projects involve various stakeholders, including project sponsors, end-users, customers, and other stakeholders. Stakeholder engagement involves identifying and engaging with stakeholders throughout the project's life-cycle to ensure that their needs are understood and incorporated into the IT solution.

Communication Management: Effective communication is crucial in IT projects to ensure that stakeholders are informed of project progress, changes, and issues. Communication management involves developing a communication plan that outlines how project information will be shared with stakeholders and monitoring the plan's effectiveness.

Procurement and stakeholder management are crucial in IT projects. They involve acquiring goods and services while identifying and meeting stakeholder needs to ensure project success.

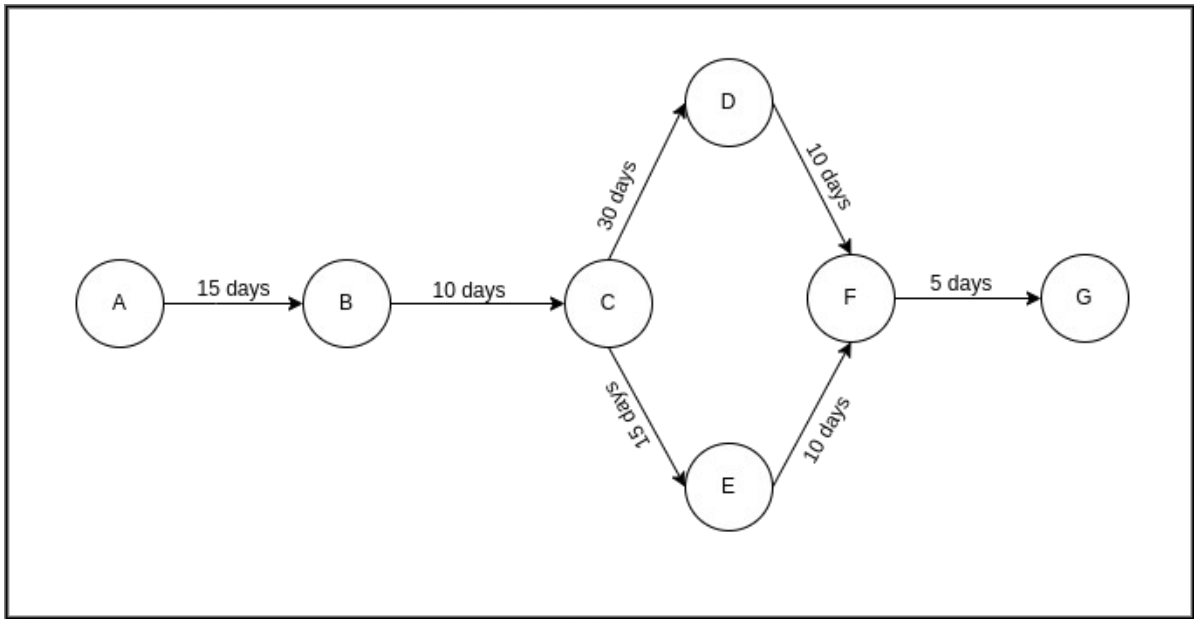
In Information Technology projects, procurement and stakeholder management play crucial roles in ensuring successful project outcomes. Proper management of these two aspects can lead to efficient project implementation, reduced risks, and improved communication among all parties involved.

e) **The following is:**

i. Gantt Chart of a Mobile App for Online Food Ordering:

WEEKS	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
ACTIVITIES																
Research & Planning																
Layout & Interface Design																
Front-end & Back-end Dvt																
Adding food Items menu																
Payment Implementation																
Mobile App Testing																
Launching																

ii. PERT chart of a Mobile App for Online Food Ordering:



Where:

A: Research & Planning.

B: Layout & Interface Design.

C: Front-end & Back-end Development.

D: Adding food Items menu.

E: Payment Implementation.

F: Mobile App Testing.

G: Launching.