

Chapter 1.3

Review Questions.

(1) Contrast the following terms.

(a) Critical path scheduling, Gantt, network diagramming, slack time

Critical path scheduling is a scheduling technique whose order and duration of a sequence of task activities directly affect the completion scheduling. have horizontal bars that

Gantt chart are diagrams that show task duration, time overlap and slack time in duration

Network diagramming are diagrams that show task dependencies, show parallelism and show slack time in boxes. have boxes and links to

Slack time is the time an activity can be delayed without delaying the project.

(b) Project, Project management, Project manager.

Project is a planned undertaking of related activities to reach an objective that has a beginning and an end.

Project management is a controlled process of initiating, planning, executing and closing down a project.

Project manager is a system analyst with ^{like} diverse set of skills ~~in~~ management, leadership, technical, conflict management and customer relationship - who is responsible for initiating, planning, executing and closing down a project.

(c) Project initiation, project planning, project execution, project close down.

Project initiation is the phase where size, scope and complexity of project is assessed and procedures are established.

Project planning is the phase where clear and discrete activities are defined as well as the work needed to complete each activity.

Project execution is the phase where plans created in prior phases are put into action.

Project closedown is the phase where the project is brought to an end.

(d) Project workbook, resources, work breakdown structure

Project workbook is a comprehensive and centralized document that contains various pieces of information, documentation and records related to a specific project.

Resources refer to the assets, people, tools, equipment, materials and finances required to execute and complete a project successfully. including ~~for~~ tangible and intangible resources.

Work breakdown structure (WBS) is division of project into manageable and logically ordered tasks and subtasks.

(2) Discuss the reasons why organizations undertake information systems project.

Ans Organizations undertake information system project for various reasons which are discussed below:

(i) Business Process Improvement:

Information systems projects are often initiated to streamline and optimize existing business processes.

By implementing new technology solutions, organizations can automate manual tasks, reduce inefficiencies, eliminate bottlenecks and enhance overall operational efficiency.

(ii) Competitive Advantage:

Organizations recognize that leveraging advanced information systems can provide a competitive edge. Implementing innovative technologies can lead to better customer experiences, faster product development, quicker decision-making and improved service delivery, all of which contribute to a stronger market position.

(iii) Data Management and Analysis.

Information systems project can help organizations gather, store, manage and analyze vast amount of data. This data-driven approach enables data driven decision-making, better insights into customer behaviour, market trends and operational performance, leading to more informed business strategies.

(iv) Cost reduction:

Information systems projects can result in cost saving by automating repetitive tasks, reducing paperwork, optimizing resource allocation and improving overall operational efficiency.

(v) Risk management:

Effective information systems projects can help organizations identify, assess and mitigate risks. By improving data security, disaster recovery and business continuity planning, organizations can minimize potential disruption.

(3) List and describe the common skills and activities of a project manager. Which skill do you think is most important? Why?

Ans. The common skills and activities of a project manager are as follows:-

(a) Management skills.

(i) Leadership skills.

(ii) Technical skills

(iv) Conflict management skills.

(v) Customer relationship skills

(c) Management skills.

The project manager is responsible for managing the entire project. So, the project manager must have management skills such as resource management, time management etc.

(ii) Leadership skills :

Project managers need strong leadership skills to guide and motivate their teams. They should be able to set a clear vision, inspire team members and foster a sense of purpose and commitment toward project goals.

(iii) Technical skills

The project manager must have solid understanding of the project's domain and technologies which helps in making informed decisions and communicating effectively with team members.

(iv) Conflict management skills

Conflict management skills help in addressing disagreements and maintaining a positive team dynamic.

(v) Customer relationship skills.

Customer relationship skills are essential for project managers to effectively interact with and manage relationships with their clients or stakeholders.

Communication skill is the most important skill for a project manager. • Effective communication permeates every aspect of project management. It facilitates understanding, builds relationships, manages expectations, resolves conflict and drive collaboration. Without it, project managers may struggle to convey their vision, navigate challenges and will ultimately deliver successful outcomes.

(Q) Describe the activities performed by the project manager during project initiation.

Ans. The activities performed by the project manager during project initiation are as follows:-

- (i) establish an initial team for the project.
- (ii) ~~but~~ establish relationship with customer.
- (iii) form a project initiation plan.
- (iv) set up management procedures.
- (v) Organise project management environment and workbook.
- (vi) Create a project charter.

(S) Which of the four phases of the project management process do you feel is most challenging? Why.

Ans. The most challenging phase of the project management process is the execution phase because of the following reasons

(i) Complexity management:

During the execution phase, the project plan is put into action. Managing the complexity of various tasks, resources, timelines and dependencies can be challenging.

(ii) Resource Allocation:

Efficiently allocating and managing resources is crucial in the execution phase. Balancing competing priorities and making real time decisions about resource allocation can be demanding.

(iii) Scope changes:

Sometimes, scope changes or unexpected requirements emerge during the execution phase. Managing these changes while minimizing disruptions to the project timeline and budget can be a significant challenge.

(iv) Team Dynamics.

Managing a diverse team and ensuring effective collaboration can be complex. Addressing conflicts, maintaining motivation and ensuring everyone is aligned with the project goals can require significant effort.

(v) Risk management.

Risks that were identified earlier in the project may materialize during the execution phase. Managing and mitigating these risks while minimizing their impact on the project can be daunting.

(6) Describe the activities performed by the project manager during project planning.

Ans. The activities performed by the project manager during project planning are as follows.

- (i) describing project scope, alternatives and feasibility
- (ii) dividing the project into manageable tasks
- (iii) estimating resources and creating a resource plan
- (iv) developing a preliminary schedule.
- (v) developing a communication plan
- (vi) determining project standards and procedures
- (vii) Identifying and assessing risk
- (viii) creating a preliminary budget.
- (ix) Developing a Project Scope statement.

(X) setting a Baseline project plan.

(F) Describe the activities performed by the project manager during project execution.

Ans The activities performed by the project manager during project execution are as follows:

- (i) Execute the baseline project plan.
- (ii) Monitor progress against baseline plan.
- (iii) Manage changes in baseline plan.
- (iv) Maintain project workbook.
- (v) Communicate project status.

(S) List various project team communication methods and describe an example of the type of information that might be shared among team members using each method.

with information shared

Ans The various project team communication methods are:

- (i) Project workbook - Project goals, team roles.
- (ii) Meetings - critical decisions, complex discussions.
- (iii) Seminars and workshops - guidelines, reference materials.
- (iv) Project newsletters - Project achievements.
- (v) Status reports - Project progress.
- (vi) Specification documents - Project scope.
- (vii) Minutes of meetings - Project updates.

- (viii) Bulletin boards, - Project progress
- (ix) Memos - budget project templates
- (x) Brown bag lunches - discussions
- (xi) Hallway discussions - informal team discussion

(9) Describe the activities performed by the project manager during project closedown

Ans The activities performed by the project manager during project closedown are as follows:

- (i) Close down the project.
- (ii) Conduct Post-project reviews.
 - reflect on the project's overall performance
 - analyze strengths, and weaknesses and identify areas for improvement in future projects

(iii) Close customer contract.

If the project involved external vendors or suppliers, ensure that all contracts and agreements are formally closed, and any outstanding obligations are resolved.

(iv) Prepare final reports

Create a final project report that summarizes the project's objectives, outcomes, lessons learned, challenges, and recommendations for improvement.

(10) What characteristics must a project have in order for critical path scheduling to be applicable?

Ans: The characteristics that a project must have in order for critical path scheduling to be applicable are as follows:

- (i) Sequential activities.
- (ii) Network of activities.
- (iii) Estimation of activity duration.
- (iv) Identifiable start and finish.
- (v) Dependent activities.
- (vi) Fixed resources.
- (vii) Linear relationship.
- (viii) Critical activities.
- (ix) Objective of Time Optimization.
- (x) Well-Defined Constraints.
- (xi) Quantifiable outputs.
- (xii) Predictable Variability.

(11) Calculate the expected time for the following activities.

Activity	Optimistic Time (o)	Most Likely Time (2)	Pessimistic Time (p)	Expected Time
A	3	7	11	7
B	5	9	13	9
C	1	2	9	3
D	2	3	16	5
E	2	4	18	6
F	3	4	11	5
G	1	4	7	4
H	3	4	5	4
I	2	4	12	5
J	4	7	9	6.833.

Formula for calculating expected time:

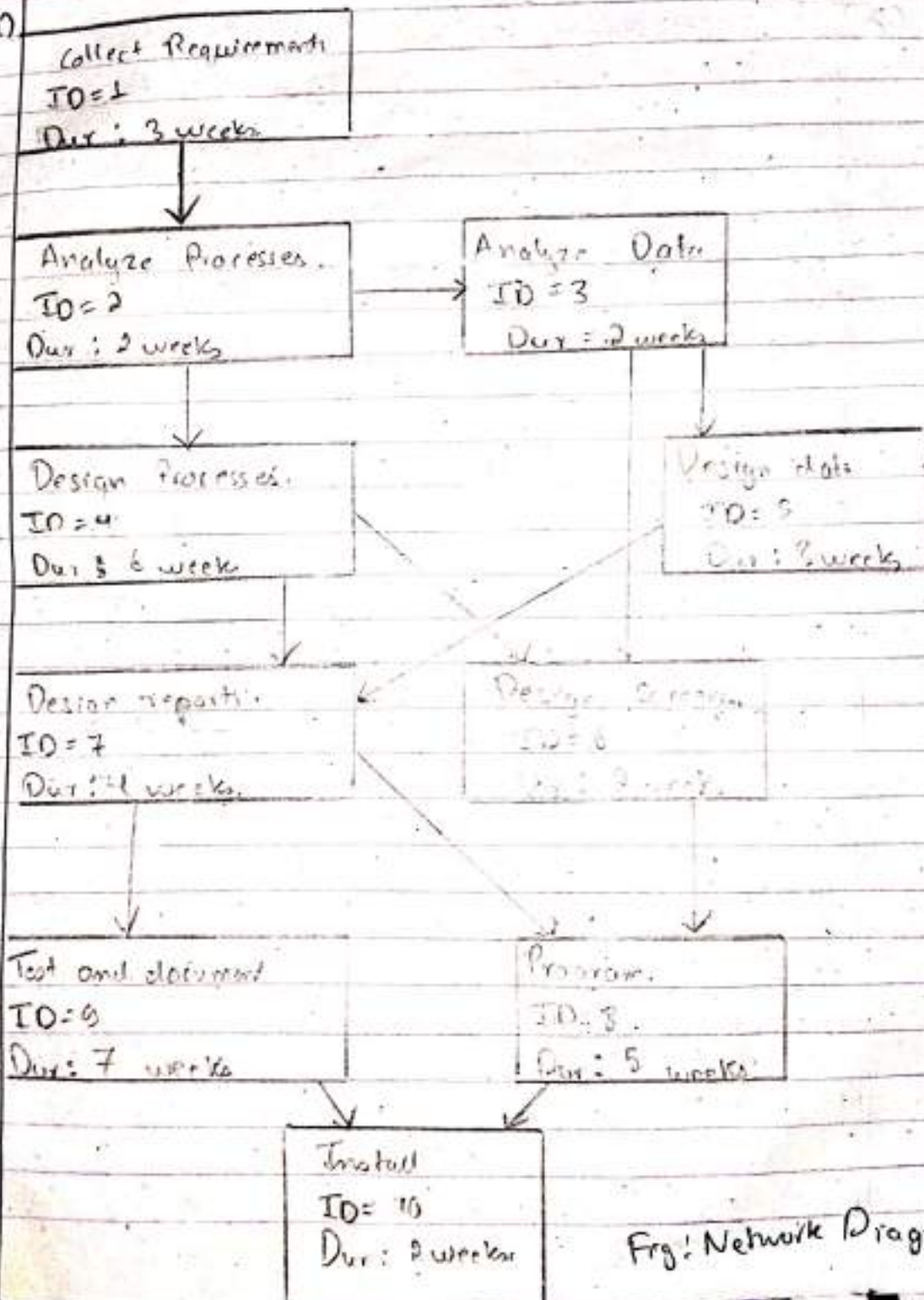
$$\text{Expected Time (ET)} = \text{optimistic time} + \frac{4 \times \text{Most Likely Time} + \text{Pessimistic Time}}{6}$$

- (12) A project has been defined to contain the following list of activities along with their required times for completion.

Activity No.	Immediate Activity	Time (weeks)	Predecessors
1	Collect requirements	3	
2	Analyze processes	2	1
3	Analyze data	2	2
4	Design processes	6	2
5	Design data	3	3
6	Design screens	2	3, 4
7	Design reports	4	4, 5
8	Program	5	6, 7
9	Test and document	7	7
10	Install	2	8, 9

- (a) Draw a network diagram for the activities.
 (b) Draw a Gantt chart for the activities.

(a)



Frg: Network Diagram