

GUJARAT TECHNOLOGICAL UNIVERSITY

BE-7 SEMESTER – OLD PAPER – S22 TO S25 – QUESTION BANK

Subject Name & Code:

Project Management- 3171506

Unit 1: Project Management (Introduction & Portfolio)

Repeated Questions:

1. **Explain the life cycle of a project.**
 - **Appeared in:** Summer 2022 (04 Marks), Summer 2023 (07 Marks), Summer 2024 (04 Marks), Summer 2025 (03 Marks).
 - **Significance:** A fundamental concept. Must be prepared with diagrams (S-curve) and stages (Conceptualization, Planning, Execution, Termination).
2. **Differentiate between Project Management and General Management.**
 - **Appeared in:** Summer 2022 (03 Marks), Summer 2025 (04 Marks), Winter 2024 (07 Marks).
 - **Significance:** Core definition question. Focus on temporary vs. ongoing, unique deliverable vs. repetitive tasks.
3. **Explain the project portfolio process.**
 - **Appeared in:** Summer 2022 (07 Marks), Summer 2024 (07 Marks), Summer 2025 (07 Marks).
 - **Significance:** High-mark question. Understand the steps: establishing a framework, collecting project data, selecting a portfolio.
4. **What are the three objectives/goals of a project?**
 - **Appeared in:** Summer 2023 (03 Marks), Winter 2023 (04 Marks), Winter 2024 (04 Marks).
 - **Significance:** The "Iron Triangle": Performance/Scope, Time, Cost.

Other Important Questions:

- **What is a project?** (Summer 2022 - 03 Marks, Winter 2024 - 03 Marks)
- **Give three examples of projects found in your city, region, or country. Justify your answer using the characteristics of a project.** (Winter 2022 - 03 Marks)
- **Use the characteristics of a project to differentiate it from a non-project.** (Summer 2024 - 03 Marks)
- **What is an approach of project formulations?** (Winter 2023 - 03 Marks)
- **Write the advantages of project formulation.** (Summer 2023 - 04 Marks)
- **Contrast win-lose negotiation with win-win negotiation and explain why the latter is so important in project management.** (Winter 2022 - 04 Marks)
- **Brief about the two types of project life cycles.** (Summer 2024 - 04 Marks) [*Refers to predictive/plan-driven vs. adaptive/change-driven*].

Unit 2: Organizing the Project

Repeated Questions:

1. **Explain the roles and responsibilities of a Project Manager.**
 - **Appeared in:** Summer 2022 (03 Marks), Summer 2023 (07 Marks OR), Summer 2024 (07 Marks), Winter 2023 (07 Marks OR).
 - **Significance:** Very frequent question. Cover responsibilities to the project, parent organization, and team, and how roles change through the life cycle.
2. **Explain the functional organizational structure.**
 - **Appeared in:** Summer 2023 (04 Marks), Summer 2025 (07 Marks OR).
 - **Significance:** Often compared with matrix and pure project structures.
3. **Write a short note on the project team. / Explain the roles of the project team.**
 - **Appeared in:** Summer 2022 (04 Marks), Summer 2023 (03 Marks).
 - **Significance:** Understand team formation, characteristics of effective members, and roles.

Other Important Questions:

- **Enlist the characteristics of effective team members in a project.** (Summer 2024 - 03 Marks)
- **Explain the following ways of organizing projects: pure project organization, functional project organization, matrix project organization.** (Winter 2022 - 07 Marks)
- **Write a short note on Project management as a Profession.** (Summer 2023 - 07 Marks OR)
- **What is meant by “micromanagement”? Why is it undesirable?** (Winter 2022 - 03 Marks)
- **Explain any three project manager selection criteria.** (Summer 2025 - 03 Marks)

Unit 3: Planning the Project

Repeated Questions:

1. **Explain Work Breakdown Structure (WBS).**
 - **Appeared in:** Summer 2022 (07 Marks), Summer 2025 (07 Marks), Winter 2024 (07 Marks OR).
 - **Significance:** A critical planning tool. Be ready to define it, state its characteristics, and even create a 3-level WBS for a sample project (as seen in papers).
2. **Explain the planning process. / Write planning process-Nuts and Bolts.**
 - **Appeared in:** Summer 2022 (07 Marks OR), Winter 2023 (03 Marks OR), Summer 2025 (04 Marks).
 - **Significance:** Understand the steps from objective setting to schedule development.
3. **Explain about the RACI matrix.**
 - **Appeared in:** Summer 2023 (07 Marks OR), Summer 2024 (04 Marks).
 - **Significance:** Important for defining roles in projects.

Other Important Questions:

- **List the steps involved in the planning process of a project.** (Winter 2024 - 03 Marks)
- **Explain any three elements of project planning.** (Summer 2023 - 03 Marks OR)
- **Write down the characteristics of work breakdown structure.** (Summer 2023 - 04 Marks OR)
- **Differentiate between the Project Plan, and the Work Breakdown Structure.** (Summer 2024 - 03 Marks OR)
- **Provide steps, you will include in Project Charter, to control “scope creep”.** (Winter 2022 - 04 Marks)
- **Write a short note on Project planning using Mind mapping.** (Summer 2024 - 07 Marks OR)
- **Show the format of a WBS as an output of Microsoft Project software.** (Summer 2024 - 03 Marks)
- **Categorize the contents of a project plan necessary for large non-routine projects.** (Winter 2022 - 07 Marks)
- **Develop a WBS (Gozinto tree) with at least three levels for a project...** (Winter 2022 - 07 Marks OR, Summer 2024 - 07 Marks OR) [*Numerical/Descriptive Type*].

Unit 4: Budgeting the Project

Repeated Questions:

1. **Explain cost estimating in a project. How one can improve it? / Explain about the cost estimating.**
 - **Appeared in:** Summer 2022 (04 Marks), Summer 2023 (07 Marks), Winter 2023 (03 Marks OR - Methods to improve).
 - **Significance:** Core financial aspect. Types of estimates (Ballpark, Definitive) and improvement techniques (Learning Curve, etc.).
2. **Explain top-down and bottom-up approaches for budgeting.**
 - **Appeared in:** Summer 2023 (04 Marks), Summer 2025 (04 Marks OR).
 - **Significance:** Compare and contrast these two primary methods.
3. **Discuss budget uncertainty and risks associated with it.**
 - **Appeared in:** Summer 2022 (07 Marks), Winter 2023 (04 Marks), Summer 2025 (07 Marks OR).
 - **Significance:** Links budgeting to risk management.

Other Important Questions:

- **What are different budgeting methods?** (Summer 2022 - 03 Marks)
- **Contrast the disadvantages of top-down budgeting and bottom-up budgeting.** (Winter 2022 - 03 Marks)
- **Write a note on: Methods of budgeting.** (Summer 2024 - 07 Marks OR)
- **Which are the Objective and Advantages of Budgeting** (Winter 2023 - 07 Marks)
- **The consultants are each billed out at Rs. 65/hour... Past experience indicates that projects of this type follow a 78 percent learning curve. Estimate the budget and completion time...** (Winter 2022 - 07 Marks OR) [*Numerical Type - Learning Curve Application*].

Unit 5: Project Network Theory (Scheduling)

Repeated Questions:

1. **Differentiate between PERT and CPM.**
 - **Appeared in:** Summer 2022 (04 Marks), Summer 2025 (03 Marks OR), Winter 2024 (07 Marks).
 - **Significance:** A classic comparison. Focus on PERT (Probabilistic, event-oriented, for R&D) vs. CPM (Deterministic, activity-oriented, for construction).
2. **Explain the Gantt chart.**
 - **Appeared in:** Summer 2022 (04 Marks), Summer 2025 (04 Marks OR), Winter 2023 (03 Marks), Winter 2024 (07 Marks OR).
 - **Significance:** A fundamental scheduling tool. Describe its purpose, how to read it, and its limitations (e.g., not showing task dependencies clearly).
3. **Construct a network diagram (AON/AOA) and find the critical path.**
 - **Appeared in:** Summer 2022 (07 Marks), Winter 2022 (07 Marks), Summer 2024 (07 Marks). This is a very common numerical problem.
 - **Significance: High-Probability Numerical Question.** You MUST be able to draw the network, calculate ES, EF, LS, LF, slack, and identify the longest path (Critical Path).

Other Important Questions:

- **Explain the terms (1) Activity (2) Event (3) Merged event** (Summer 2023 - 03 Marks)
- **What is AON and AOA diagrams?** (Summer 2022 - 03 Marks OR)
- **Explain about the distribution curve for PERT** (Summer 2023 - 04 Marks)
- **Explain the Fulkerson's rule for numbering of nodes.** (Summer 2025 - 07 Marks OR)
- **Explain with example Fulkerson's rule.** (Summer 2022 - 07 Marks OR)
- **Illustrate with examples the essential difference between PERT and CPM** (Winter 2023 - 07 Marks)
- **What is mean by updating and scheduling of resources? explain** (Winter 2023 - 04 Marks)
- **Some of the planning process steps for a new product design are given below. Arrange these in their sequence of execution.** (Winter 2022 - 03 Marks) [*Tests understanding of logical sequence before networking*].

Unit 6: Allocating Resources to the Project

Repeated Questions:

1. **Explain Resource Loading and Resource Leveling.**
 - **Appeared in:** Summer 2023 (07 Marks), Summer 2024 (04 Marks), Summer 2025 (04 Marks OR), Winter 2023 (03 Marks).
 - **Significance:** Core resource management concepts. Loading is about assigning amounts; Leveling is about smoothing demand to avoid overallocation.
2. **Explain Goldratt's Critical Chain.**
 - **Appeared in:** Winter 2023 (07 Marks), Summer 2024 (04 Marks), Summer 2025 (07 Marks OR).
 - **Significance:** A modern, important concept. Focus on how it addresses Parkinson's Law and student syndrome by using buffers (Project, Feeding).
3. **Describe crashing the project network.**
 - **Appeared in:** Summer 2025 (03 Marks OR), Winter 2024 (04 Marks).
 - **Significance:** A key time-cost trade-off technique. Often comes as a numerical problem.

Other Important Questions:

- **Define: (1) Project buffer (2) Feeding buffer (3) Resource buffer** (Summer 2023 - 03 Marks, Summer 2025 - 03 Marks)
- **Explain any four problems for Resource allocations.** (Summer 2023 - 04 Marks)
- **Explain the factors affecting to resource loading** (Summer 2023 - 07 Marks)
- **What is meant by the term "student syndrome"?** (Summer 2024 - 03 Marks OR)
- **Provide meaning of the following rules for assigning preference...: as soon as possible, as late as possible, shortest task duration first, minimum slack first, etc.** (Winter 2022 - 03 Marks, Summer 2024 - 03 Marks)
- **Which are the different problems faced in allocating the resources.** (Winter 2023 - 04 Marks)
- **Given the following project... The contract includes a penalty clause... Would the project be benefited in terms of total cost, if it is crashed by 1 day?** (Summer 2024 - 07 Marks OR) [*Numerical Type - Crashing with Cost Analysis*].
- **Given the following project... Suppose the project must be crashed by 2 days. Assess the options...** (Winter 2022 - 07 Marks) [*Numerical Type - Crashing*].

Unit 7: Monitoring and Controlling the Project

Repeated Questions:

1. **Explain Earned Value Analysis/Chart.**
 - **Appeared in:** Winter 2023 (04 Marks), Summer 2023 (07 Marks), Summer 2024 (04 Marks).
 - **Significance:** A vital project control technique. Be prepared to define PV, EV, AC, and calculate CV, SV, CPI, SPI. Drawing the chart is often required.
2. **Define Scope Creep and its causes.**
 - **Appeared in:** Summer 2023 (03 Marks), Winter 2023 (04 Marks), Winter 2024 (07 Marks OR).
 - **Significance:** A very common real-world problem. Understand its causes and the importance of change control processes to manage it.
3. **What are the different ways to collect data? / What is data collection and reporting?**
 - **Appeared in:** Winter 2023 (07 Marks), Winter 2024 (03 Marks).
 - **Significance:** The foundation of monitoring.

Other Important Questions:

- **Write advantages of data reporting.** (Summer 2023 - 04 Marks)
- **Which different formats are used to collect data through the monitoring system?** (Summer 2024 - 04 Marks OR)
- **Explain the plan-monitor-control cycle.** (Winter 2023 - 07 Marks OR)
- **What are the different types of control?** (Winter 2023 - 03 Marks)
- **Explain the considerations and steps involved in designing a project control system.** (Winter 2024 - 04 Marks)
- **Using earned value analysis, explain how the total cost of a partially completed project can be estimated.** (Winter 2022 - 04 Marks) [*Application of EVA*].

Unit 8: Evaluating and Terminating the Project

Repeated Questions:

1. **Explain the different types of project termination.**
 - **Appeared in:** Summer 2025 (07 Marks), Winter 2023 (07 Marks OR), Winter 2022 (04 Marks).
 - **Significance:** Important to know the modes: Extinction, Addition, Integration, Starvation.
2. **Explain the steps of a project audit.**
 - **Appeared in:** Summer 2025 (07 Marks OR), Winter 2023 (03 Marks OR), Winter 2024 (04 Marks OR).
 - **Significance:** The structured process for evaluating project success.
3. **Explain project evaluation (Pre, Ongoing, Post).**
 - **Appeared in:** Summer 2025 (04 Marks), Summer 2023 (04 Marks OR).
 - **Significance:** Understand the purpose and timing of each evaluation type

Other Important Questions:

- **Define project termination and explain any one factor considered in terminating the project.** (Summer 2025 - 03 Marks)
- **Explain the objective of project Audit.** (Winter 2023 - 03 Marks)
- **What is project evaluation, and why is it important in project management?** (Winter 2024 - 04 Marks)
- **Why is project termination an essential phase in project management?** (Winter 2024 - 03 Marks OR)
- **Brief about the information to be contained in a project audit report.** (Winter 2022 - 04 Marks, Summer 2024 - 04 Marks OR)
- **Differentiate between the Pre-project evaluation and Post project evaluation.** (Summer 2023 - 04 Marks OR)
- **Explain Project termination process in detail.** (Summer 2023 - 07 Marks OR)
- **Explain the terms (1) General Audit (2) Detailed audit (3) Technical audit** (Summer 2023 - 03 Marks OR)
