Unit 1

What is software project?
A software project is a planned effort to develop or maintain a specific software product.

What are the objectives of a software project?
Objectives include delivering quality software, on time, within budget, and meeting client requirements.

Enlist the characteristics of project.
Unique purpose, temporary, requires resources, involves uncertainty, and follows a plan.

Why do we need project management?
To organize resources efficiently and achieve project goals effectively.

What are the steps in PM?
Initiation, planning, execution, monitoring, and closure.

Explain project life cycle in short.
It includes initiation, planning, execution, monitoring, and project closure stages.

What do you mean by PMBOK?
PMBOK is a guide that provides standard terminology and guidelines for project management.

Explain build and buy decision.
It's the choice between developing software in-house or purchasing it from vendors.

What is WBS? Why do we need it?
WBS is a Work Breakdown Structure used to divide a project into manageable parts.

What are the types of WBS?
Deliverable-based and phase-based WBS types.

List down the activities in process groups.
Initiating, planning, executing, monitoring & controlling, and closing.

Explain project management in short.
It's applying skills, tools, and techniques to project activities to meet objectives.

What are the challenges before project managers?
Scope creep, resource management, communication, and risk handling.

Explain Project Portfolio Management (PPM).
PPM manages multiple projects to achieve strategic business goals.

Why PPM is important?
It aligns projects with organizational strategy and optimizes resource usage.

Unit 2

Name the tools used in PM.
Gantt chart, PERT, MS Project, Primavera, Kanban, and Trello.

Why to use Gantt chart for PM?
It visually represents the project schedule and task progress.

Explain the importance of a PERT chart in PM.
PERT helps estimate project duration and manage uncertain activities.

For a medium scale project, which tool would be preferred? Primavera or MS Project? Why?
MS Project is preferred as it is simpler and user-friendly.

What is sequencing?
Arranging project activities in logical order for execution.

What is scheduling?

Allocating resources and time to project tasks.

What is difference between Primavera and MS Project?
Primavera is for large-scale projects; MS Project suits small to medium ones.

Explain in short, a dangle and a loop.
Dangle: activity without successor; Loop: circular dependency in a network.

What are the differences in sequencing and scheduling?
Sequencing sets order; scheduling sets timing and resources.

What are the objectives of activity planning?
To ensure timely completion and effective resource use.

List the steps in project scheduling process.
Define tasks, sequence, estimate time, allocate resources, monitor progress.

What are the 4 steps to create PERT chart?
List tasks, sequence them, estimate time, draw network diagram.

Unit 3

What are the objectives of activity planning?
To ensure efficient execution and control of project activities.

What is a SMART rule?
It stands for Specific, Measurable, Achievable, Relevant, and Time-bound goals.

Enlist the elementary processes of project planning.
Scope, schedule, cost, quality, risk, and resource planning.

What is project schedule?
A timeline showing when project tasks will be completed.

Explain the project schedule steps.
Define activities, sequence, estimate duration, and assign resources.

Enlist the activities involved in project management.
Planning, organizing, leading, and controlling project efforts.

What is risk management?
Identifying and controlling potential project risks.

Explain estimation management.
It determines resources, cost, and time required for a project.

Why scheduling management is essential?
It ensures timely delivery and proper resource allocation.

Explain project configuration management.
It tracks changes to software and documentation for consistency.

What is PRINCE 2? Explain briefly.
PRINCE2 is a process-based method for effective project management.

How will you estimate your resources while planning the project?
By analyzing scope, effort, and availability of human and technical assets.

What is three point estimates?
It uses optimistic, pessimistic, and most likely values for accurate estimation.

Explain network planning models.
They visually map project activities and dependencies.

Explain network formulating models.
They define task flow using CPM or PERT diagrams.

What is CPM?
Critical Path Method identifies the longest path determining project duration.

Is dangling and looping possible in practical projects?
No, they cause logical errors and are avoided in practice.

What are the CPM conventions?
Use arrows for tasks, nodes for events, and avoid loops.

Explain activity relationships.
Defines dependencies like FS, SS, FF, and SF between activities.

What are the activity dependencies?
Finish-to-Start, Start-to-Start, Finish-to-Finish, Start-to-Finish.

Explain forward pass and backward pass.
Forward calculates earliest times; backward finds latest times.

Unit 4

What are the monitoring and control processes in Project work?
Tracking, reviewing, and regulating project progress.

What are the steps involved in collection of project data?
Define metrics, gather, analyze, and report data.

Enlist the data collection methods.
Interviews, surveys, observations, and software tools.

How do you visualize project progress?
Using Gantt charts, dashboards, and progress reports.

When to use project timelines and Gantt charts?
When tracking progress and dependencies visually.

When not to use project timelines and Gantt charts?
For very small or rapidly changing projects.

Explain how to create project timeline with the help of Kanban boards.
Divide tasks into columns: To-Do, In Progress, Done.

When to use project calendars and when not to use?
Use for resource scheduling; avoid in informal projects.

What is project cost management?
It involves estimating, budgeting, and controlling project costs.

What are the steps in project cost management?
Resource planning, cost estimation, budgeting, and control.

Earned value analysis and formula
EVA = (EV - AC); EV = %complete × total budget.

Features of good project report.
Clear, concise, accurate, and visually organized.

What is change control? What is the use of it?
It manages project modifications systematically.

What are the different factors of change control process?
Request, analysis, approval, implementation, and review.

Explain software configuration management?
Tracks and controls software changes throughout lifecycle.

What are the tools used for configuration management?

Git, SVN, CVS, and Jenkins.

Explain managing contracts in project management.
Involves procurement, agreement, and compliance monitoring.

What are the challenges in contract management?
Legal risks, unclear terms, and cost overruns.

Explain the benefits of contract management.
Improves compliance, transparency, and cost control.

What are the types of contracts in software project management?
Fixed price, time and material, and cost-reimbursable.

Unit 5

Explain predictive control.
It plans processes fully before execution, using detailed models.

What is empirical process control?
Uses observation and adaptation to manage unpredictable projects.

What are three pillars in scrum events?
Transparency, inspection, and adaptation.

Differentiate between predictive process and empirical process.
Predictive is plan-driven; empirical is adaptive.

Compare non agile and agile project
Non-agile is rigid; agile is flexible and iterative.

What are the benefits of agile projects?
Flexibility, faster delivery, and better collaboration.

Why agile is preferred over traditional PM?
It adapts to changes and ensures customer satisfaction.

Explain the characteristics of agile management.
Iterative, collaborative, transparent, and customer-focused.

List down roles in agile management.
Scrum Master, Product Owner, and Development Team.

Write the stages of agile estimation.
Planning poker, affinity mapping, and relative sizing.

Explain agile SDLC.
It includes iterative planning, development, testing, and feedback.

Explain agile methodology steps.
Concept, inception, iteration, release, and maintenance.

Explain project scheduling in agile environment.
Schedules are flexible, based on sprints and velocity.

Explain scope management
Defines, controls, and monitors what’s included in the project.

What is estimation in agile?
It predicts effort and time using story points.

Unit 6

What are the crucial people management skills?
Leadership, communication, motivation, and conflict resolution.

Explain three basic levels of analysis in organizational behavior.
Individual, group, and organizational level.

What are the best methods of staff selection?
Interviews, tests, and reference checks.

Enlist the steps for better employee selection process
Job analysis, sourcing, screening, interviewing, selection.

Explain the importance of stress and health management and safety in PM.
Ensures productivity, motivation, and workplace safety.

Enlist five core elements of successful safety programs.
Training, supervision, equipment, environment, and policy.

What are the ethical and professional concerns in PM?
Integrity, transparency, fairness, and accountability.

What is the code of ethics?
Set of principles guiding professional behavior.

Discuss about working in team to build a technical project or a product.
Teamwork enhances creativity, problem-solving, and efficiency.

What are software development team roles and responsibilities?
Analysts, developers, testers, and project managers collaborate.