CompTIA Project+ Certification Exam Objectives

EXAM NUMBER: PK0-005 V5

About the Exam

Candidates are encouraged to use this document to help prepare for the CompTIA Project+ PK0-005 certification exam. The CompTIA Project+ PK0-005 certification exam will verify the successful candidate has the knowledge and skills required to manage the project life cycle, coordinate small-to-medium-sized projects, establish a communication plan, manage resources and stakeholders, maintain project documentation and artifacts, and support the completion of larger projects within an information technology (IT) environment. The certification exam covers waterfall and agile methodologies. The certification exam measures knowledge equivalent to that of professionals who have 6–12 months of hands-on experience managing projects in an IT environment. These content examples are meant to clarify the test objectives and should not be construed as a comprehensive listing of all the content of this examination.

EXAM DEVELOPMENT

CompTIA exams result from subject matter expert workshops and industry-wide survey results regarding the skills and knowledge required of an IT professional.

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PLEASE NOTE

The lists of examples provided in bulleted format are not exhaustive lists. Other examples of technologies, processes, or tasks pertaining to each objective may also be included on the exam, although not listed or covered in this objectives document. CompTIA is constantly reviewing the content of our exams and updating test questions to be sure our exams are current, and the security of the questions is protected. When necessary, we will publish updated exams based on existing exam objectives. Please know that all related exam preparation materials will still be valid.

TEST DETAILS

Required exam	PK0-005
Number of questions	Maximum of 95
Types of questions	Multiple-choice and performance-based
Length of test	90 minutes
Recommended experience	6–12 months of hands-on experience managing projects in an IT environment

EXAM OBJECTIVES (DOMAINS)

The table below lists the domains measured by this examination and the extent to which they are represented.

DOMAIN		PERCENTAGE OF EXAMINATION
1.0	Project Management Concepts	33%
2.0	Project Life Cycle Phases	30%
3.0	Tools and Documentation	19%
4.0	Basics of IT and Governance	18%
Total		**100%**

1.0 Project Management Concepts

1.1 Explain the basic characteristics of a project and various methodologies and frameworks used in IT projects.

- Characteristics of a project
  - Start and finish
  - Unique
  - Reason/purpose
  - Project as part of a program
  - Project as part of a portfolio
- Methodologies and frameworks
  - DevSecOps
  - DevOps
  - Kanban
  - PRojects IN Controlled Environments (PRINCE2)
  - Software Development Life Cycle (SDLC)
  - Scrum
  - Scaled Agile Framework (SAFe)
  - Extreme programming (XP)
  - Waterfall

1.2 Compare and contrast Agile vs. Waterfall concepts.

- Criteria for selecting a method
  - Tolerance for change/flexibility
    - Requirements
    - Budget
    - Schedule
  - Environmental factors
    - Cultural
    - Developmental
    - Industry standards
- Team composition
  - Product ownership
    - Roles and responsibilities
    - Team size
    - Resource allocation and commitment
- Differences in communication methods

1.3 Given a scenario, apply the change control process throughout the project life cycle.

- Project-specific change control
  - Create/receive change requests
  - Document requests in the change control log
  - Conduct a preliminary review
  - Conduct impact assessments
  - Document change recommendations
  - Determine decision makers
  - Escalate to the change control board (CCB), if applicable
  - Document the status of approval in the change control log
  - Communicate the change status
  - Update the project plan
  - Implement changes
  - Validate the change implementation
  - Communicate change deployment
- Project change management
  - Product change vs. project change
  - Manage scope creep/scope change

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1.4 Given a scenario, perform risk management activities.

- General risks
  - New projects
  - New management
  - Regulatory environment changes
  - Digital transformation
  - Infrastructure end-of-life
  - Merger and acquisition
  - Reorganization
  - Major cybersecurity event
- Known risk vs. unknown risk
- Common risk responses
  - Development of contingency/ fallback plans
  - Risk management strategies
    - Negative risks
      - Accept
      - Avoid
      - Mitigate
      - Transfer
    - Positive risks
      - Accept
      - Enhance
      - Exploit
      - Share
- Risk analysis
  - Qualitative
    - Interconnectivity
    - Detectability
  - Quantitative
    - Simulation
  - Impact analysis
    - Probability vs. impact
  - Situational/scenario analysis
- Connections between risks and issues
- Connection between risks and changes
- Roles and responsibilities
  - Points of escalation
  - Ownership

1.5 Given a scenario, perform issue management activities.

- Roles and responsibilities
  - Escalation path
  - Ownership
- Issue tracking
- Connections between issues and changes
- Resolution plan
  - Execute contingency plans
  - Root cause analysis
  - Prioritization
    - Issue severity
    - Impact to project
    - Urgency
    - Scope of impact to organization
    - Issue escalation
  - Work-arounds
- Outcome documentation

1.6 Given a scenario, apply schedule development and management activities and techniques.

- Upcoming milestones and activity identification
  - Sprint goals
- Sequencing
  - Dependencies
    - Hard logic/mandatory
    - Soft logic/discretionary
    - External
    - Internal
    - Issue escalation
  - Successor/predecessor relationships
    - Start-to-start
    - Start-to-finish
    - Finish-to-finish
    - Finish-to-start
- Resource loading
- Estimating techniques
  - Determine contingency reserves/buffers
- Story estimation/story points
  - Epics
  - Tasks
- Scheduling tools
- Schedule maintenance
  - Contingency reserves/ buffer utilization
  - Critical path analysis
  - Impacts to cadence
  - Forecasting
  - Publication and sharing
  - Sprint planning
  - Backlog prioritization
- Revise baseline vs. rebaseline

1.7 Compare and contrast quality management concepts and performance management concepts.

- Retrospective/lessons learned
- Sprint review
- Service-level agreement
- Key performance indicators—objectives and key results
- Cost and schedule performance
  - Cost variance
  - Schedule variance
- Audits and inspections
- Test plan and testing cycles
  - Unit testing
  - Smoke testing
  - Regression testing
  - Stress testing
  - Performance testing
  - User acceptance testing
- Verification and validation
- Post-implementation support/warranty period

1.8 Compare and contrast communication management concepts.

- Assess methods
  - Synchronous and asynchronous communication
  - Written and verbal
  - Formal and informal
  - External and internal
- Develop communication platforms/modalities
- Manage project communication
  - Overcoming communication challenges
    - Language barriers
    - Time zones/geographical factors
    - Technological factors
  - Cultural differences
  - Maintaining communication records
    - Communication security
    - Communication integrity
    - Communication archiving
- Controlling project communication
  - Escalating communication issues
  - Revising the communication plan

1.9 Given a scenario, apply effective meeting management techniques.

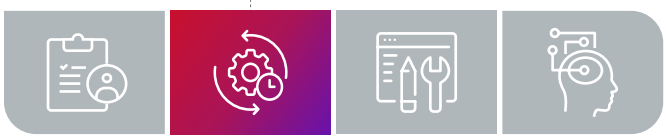
- Meeting types
  - Collaborative
    - Workshops
    - Focus groups
    - Joint application development/joint application review sessions
    - Brainstorming
  - Informative
    - Demonstrations/presentations
    - Stand-ups
    - Status
  - Decisive
    - Refinement
    - Task setting
    - Project steering committee meeting
- Agenda settings/publishing
- Roles
  - Facilitator
  - Scribe
  - Attendees/target audience
- Timeboxing
- Action items
- Meeting minutes
- Follow-ups

1.10 Given a scenario, perform basic activities related to team and resource management.

- Organizational structures
  - Matrix
  - Projectized
  - Functional
- Resource life cycle
  - Acquisition
    - Needs assessment
  - Maintenance
  - Hardware decommissioning
  - End-of-life software
  - Successor planning
- Resource types and criticality
  - Human resources
  - Physical resources
  - Capital resources
  - Internal vs. external
  - Shared vs. dedicated
- Gap analysis
  - Feature/functionality
  - Skills
  - Utilization
- Team performance considerations
  - Maintaining project momentum
  - Assessing team life cycle
    - Forming
    - Storming
    - Norming
    - Performing
    - Adjourning
  - Providing project team performance feedback
- Roles and responsibilities
  - Functional/extended vs. operational/core team members
  - Sponsor
  - Stakeholders
  - Senior management
  - Product owner
  - Scrum master
  - Project manager (PM)
  - Program manager
  - Product manager
  - Testers/quality assurance (QA) specialists
  - Business analyst
  - Subject matter expert (SME)
  - Architect
  - Developers/engineers
  - Project management office (PMO)
  - End users

1.11 Explain important project procurement and vendor selection concepts.

- Resource procurement methods
  - Build
  - Buy
  - Lease
  - Subscription/pay-as-you-go
- Exploratory documents
  - Request for proposal (RFP)
  - Request for bid (RFB)
  - Request for quote (RFQ)
  - Request for information (RFI)
- Vendor evaluation techniques
  - Best value vs. lowest cost
  - Cost-benefit analysis
  - Market research
  - Competitive analysis
  - Qualifications
  - Prequalified vendors/sellers
  - Demonstration
  - Technical approach
  - Physical and financial capacity
  - References
- Contract considerations and types
  - Time and material
  - Unit price
  - Fixed price
  - Cost plus
  - Maintenance agreement
    - Warranty
  - Master service agreement
    - Purchase orders (POs)
    - Terms of reference (TOR)
  - Statement of work (SOW)
  - Non-disclosure agreement



2.0 Project Life Cycle Phases

2.1 Explain the value of artifacts in the discovery/concept preparation phase for a project.

- Business case or business objective
  - Return on investment (ROI) analysis
  - Current state vs. future state
- Prequalified vendor
- Predetermined client
- Preexisting contracts
  - Client SOW
  - Client TOR
- Financial concepts
  - Capital expenses (CapEx) vs. operational expenses (OpEx)

2.2 Given a scenario, perform activities during the project initiation phase.

- Develop the project charter
  - Project objectives
  - Project success criteria
  - Preliminary scope statement
- Identify and assess stakeholders
- Develop a responsibility assignment matrix (RAM)
  - Responsible, Accountable, Consulted, Informed (RACI)
- Establish accepted communication channels
- Develop a records management plan
  - Data
  - Documents
- Define access requirements
- Review existing artifacts
- Determine solution design
- Conduct project kickoff methods

2.3 Given a scenario, perform activities during the project planning phase.

- Assess the resource pool
  - Preliminary procurement needs assessment
- Assign project resources
- Train project team members
- Develop a communication plan
  - Meeting cadence and methodologies
- Develop a detailed scope statement
- Define units of work
  - Work breakdown structure (WBS)
  - Backlog
- Develop a project schedule
  - Establish cadences
- Determine budget considerations
- Develop QA plan
- Perform an initial risk assessment
- Develop a transition plan/release plan
  - Operational training
  - Go live
  - Operational handoff
  - Internal audience
  - External audience
- Develop a project management plan
  - Establish baselines and milestones
  - Establish minimally viable product

2.4 Given a scenario, perform activities during the project execution phase.

- Execute tasks according to the project management plan
- Implement organizational change management
  - Impacts and responses
    - Training
    - Ensure adoption
    - Reinforce adoption over time
    - Communication
    - Documentation
    - New knowledge bases
    - New processes
- Manage vendors
  - Enforce vendor rules of engagement
  - Monitor performance
  - Approve deliverables
- Conduct project meetings and updates
- Tracking/reporting
  - Team touch points
  - Risk reporting
  - External status reporting
  - Overall progress reporting
  - Gap analysis
  - Ad hoc reporting
- Update the project budget
- Update the project timeline
- Manage conflict
  - Smoothing
  - Forcing
  - Compromise
  - Collaboration
  - Avoiding
- Coordinate a phase gate review

2.5 Explain the importance of activities performed during the closing phase.

- Project evaluation
- Validation of deliverables
- Closing contracts
- Removing access
- Releasing resources
- Project closure meeting
- Project closeout report
- Collecting feedback from stakeholders
- Archiving documentation
- Budget reconciliation
- Rewards and celebration
- Project sign-off

3.0 Tools and Documentation

3.1 Given a scenario, use the appropriate tools throughout the project life cycle.

- **Tracking charts**
  - Gantt chart
  - Budget burndown chart
  - Project network diagram
  - Milestone chart
  - Program Evaluation Review Technique (PERT) chart
  - Project organizational chart
- **Tools**
  - Issue log
  - Defect log
  - Change log
  - Risk report
  - Risk register
  - Project dashboard
  - Project status report
  - Version control tools
  - Time-tracking tools
  - Task board
  - Requirements Traceability Matrix

3.2 Compare and contrast various project management productivity tools.

- **Communication tools**
  - Email
  - Messaging
    - Short message service (SMS)
    - Chat
  - Telephone
  - Meetings/face-to-face
  - Video
  - Enterprise social media
- **Collaboration tools**
  - Real-time, multi-authoring editing software
  - File sharing platforms
  - Workflow and e-signature platforms
  - Whiteboard
  - Wiki knowledge base
- **Meeting tools**
  - Real-time surveys/polling
  - Calendaring tools
  - Print media
  - Conferencing platforms
- **Documentation and office production tools**
  - Word processing
  - Spreadsheets
  - Presentation
  - Charting/diagramming
- **Project management scheduling tools**
  - Cloud-based solutions vs. on-premises solutions
  - Local installation
- **Ticketing/case management system**

3.3 Given a scenario, analyze quality and performance charts to inform project decisions.

- Histograms
- Pareto charts
- Run charts
- Scatter diagrams
- Fishbone/Ishikawa diagrams
- Control charts
- Burnup/burndown chart
- Velocity chart
- Decision tree

4.0 Basics of IT and Governance

4.1 Summarize basic environmental, social, and governance (ESG)factors related to project management activities.

- Project impact to the local and global environment
- Awareness of applicable regulations and standards
- Awareness of company vision, mission statements, and values
- Project impact to company brand value

4.2 Explain relevant information security concepts impacting project management concepts.

- Physical security
  - Mobile device considerations
  - Removable media considerations
  - Facility access
- Operational security
  - Background screening
  - Clearance requirements
- Digital security
  - Resource access and permissions
  - Remote access restrictions
    - Multifactor authentication
- Data security
  - Data classification
  - Classification of information based on sensitivity of the data
    - Intellectual property
    - Trade secrets
    - National security information
  - Access on a need-to-know basis
- Corporate IT security policies and restrictions
  - Branding restrictions

4.3 Explain relevant compliance and privacy considerations impacting project management.

- Data confidentiality
  - Sensitive data types
    - Personally identifiable information (PII)
    - Personal health information (PHI)
- Legal and regulatory impacts
- Country-, state-, province-specific privacy regulations
- Awareness of industry- or organization-specific compliance concerns impacting a project

4.4 Summarize basic IT concepts relevant to IT project management.

- Infrastructure
  - Computing services
  - Multitiered architecture
  - Networking and connectivity
  - Storage
  - Data warehouse
  - Documentation
- Cloud models
  - Platform as a service (PaaS)
  - Infrastructure as a service (Iaas)
  - Software as a service (SaaS)
  - Anything as a service (XaaS)
- Software
  - Enterprise resource planning
  - Customer relationship management
  - Databases
  - Electronic document and record management systems
  - Content management systems
  - Financial systems

4.5 Explain operational change-control processes during an IT project.

- IT infrastructure change control
  - Downtime/maintenance windows schedules
  - Customer notifications
  - Rollback plans
  - Validation checks
- Software change control
  - Requirements definition
  - Risk assessment
  - Testing
    - Automated
    - Manual
  - Approval
  - Customer notifications
  - Release
- Differences between cloud vs. on premises in change control
- Continuous integration/continuous deployment (CI/CD) process
- Production vs. beta/ staging environments
  - Tiered architecture

CompTIA Project+ PK0-005 Acronym List

The following is a list of acronyms that appears on the CompTIA Project+ PK0-005 exam. Candidates are encouraged to review the complete list and attain a working knowledge of all listed acronyms as part of a comprehensive exam preparation program.

ACRONYM	DEFINITION
API	Application Programming Interface
AWS	Amazon Web Services
BA	Business Analyst
CCB	Change Control Board
CI/CD	Continuous Integration/Continuous Deployment
CMS	Content Management System
CRM	Customer Relationship Management
EDRMS	Electronic Document and Records Management System
ERP	Enterprise Resource Planning
ESG	Environmental, Social, and Governance
FTP	File Transfer Protocol
HTTP	Hypertext Transfer Protocol
IaaS	Infrastructure as a Service
IT	Information Technology
ITIL	Information Technology Infrastructure Library
JAD	Joint Application Development
JAR	Joint Application Review
KPI	Key Performance Indicators
MOU	Memorandum of Understanding
NDA	Non-disclosure Agreement
PaaS	Platform as a Service
PCI	Payment Card Industry
PERT	Program Evaluation Review Technique
PHI	Personal Health Information
PII	Personally Identifiable Information
PM	Project Manager
PMO	Project Management Office
PRINCE2	Projects IN Controlled Environments 2
QA	Quality Assurance
RACI	Responsible, Accountable, Consulted, Informed
RAM	Responsibility Assignment Matrix
RBS	Resource Breakdown Structure
RFB	Request for Bid
RFI	Request for Information
RFP	Request for Proposal
RFQ	Request for Quote
ROI	Return on Investment
RTM	Requirements Traceability Matrix
SaaS	Software as a Service
SAFe	Scaled Agile Framework
SDLC	Software Development Life Cycle
SLA	Service-level Agreement

ACRONYM	DEFINITION
SME	Subject Matter Expert
SMS	Short Message Service
SOW	Statement of Work
SPI	Sensitive Personal Information
SQL	Structured Query Language
SSD	Solid-state Drive
SWOT	Strengths, Weaknesses, Opportunities, Threats
TOR	Terms of Reference
UAT	User Acceptance Testing
WBS	Work Breakdown Structure
XaaS	Anything as a Service
XP	Extreme Programming

CompTIA Project+ PK0-005 Proposed Hardware and Software List

CompTIA has included this sample list of hardware and software to assist candidates as they prepare for the Project+ PK0-005 exam. This list may also be helpful for training companies that wish to create a lab component for their training offering. The bulleted lists below each topic are sample lists and not exhaustive.

EQUIPMENT

- Whiteboard
- TV/projectors

IT HARDWARE

- Workstations
- Internet connection

SOFTWARE

- Microsoft Project (or similar program)
- Microsoft Word (or similar program)
- Microsoft Excel (or similar program)
- Microsoft PowerPoint (or similar program)
- Microsoft Visio (or similar program)
- Microsoft SharePoint (or similar platform)
- Microsoft Teams (or similar platform)
- Microsoft OneNote (or similar platform)
- Jira (or similar platform)
- Business analytics (Microsoft PowerBI or similar)
- Dashboarding (SmartSheet or similar)
- Confluence (or similar platform)
- Change management
- Cloud platform portal

OTHER

- Sample templates and artifacts of project management documents
- Case study and other IT project management samples

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