simplilearn

PROJECT MANAGEMENT PROFESSIONAL

What is a PMP Certification Cheat Sheet?

A PMP Certification Cheat Sheet is a quick-reference tool that condenses the essential concepts, formulas, processes, and terminologies you need to know for the Project Management Professional (PMP) exam.

It's designed to help candidates review and reinforce key project management knowledge areas, processes, and formulas in a concise and organized format.

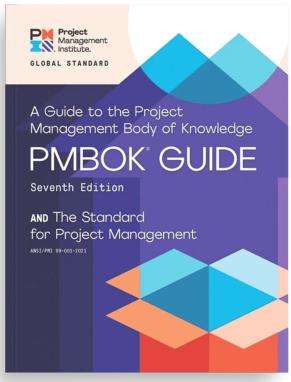
This cheat sheet serves as a summary or a study aid to make exam preparation easier and faster, focusing on the most important information.

What Is PMP Certification Exam All About?

The **Project Management Professional (PMP) Certification** exam is designed to assess a candidate's expertise in managing projects effectively. The exam is based on the PMP Exam Content Outline (ECO) and aligned with the PMBOK® Guide, 7th Edition.

PMBOK® Guide:

The **PMBOK® Guide** is a fundamental resource developed by the Project Management Institute (PMI). It provides Gold standardised guidelines and best practices for managing projects, applicable across industries.



The 7th Edition focuses on principles and project management performance domains over processes and knowledge areas. It focuses on delivering value and managing outcomes rather than just following prescriptive steps.

12 Principles of Project Management:

Core principles that guide project management practices.

Stewardship:
Be responsible and ethical in managing the project.

Team:
Build & maintain a strong, collaborative team.

Stakeholders:
Communicate & engage with stakeholders effectively.

Value:
Focus on delivering value that meets stakeholder needs.

Systems Thinking:
Understand how different parts of the project are connected.

Leadership:
Lead with flexibility, adapting to the situation.

Tailoring:
Adjust practices to fit the specific project.

Complexity:
Manage the project's complexities with skill.

Opportunities and Threats:
Address risks and seize opportunities for success.

Adaptability and Resilience:
Be flexible and resilient in handling changes.

Quality:
Ensure both the project and its deliverables are of high quality.

Change:
Embrace and manage changes that occur during the project.

Check out **How to Easily Pass the PMP Certification Exam in First Attempt**

8 Performance Domains:

- **Stakeholder Performance:** Engage stakeholders effectively.
- **Team:** Build and empower collaborative, high-performing teams.
- **Development Approach & Life Cycle:** Choose development models (Agile, Waterfall, Hybrid).
- **Planning:** Define and align project baselines with stakeholder needs.
- **Project Work:** Manage tasks, resources, and quality.
- **Delivery:** Ensure value delivery and customer satisfaction.
- **Measurement:** Use KPIs to measure project success.
- **Uncertainty:** Manage risks and identify opportunities for innovation.

PMP Exam Format:

Category	Details
Total Number of Questions	180 questions (175 scored, 5 pretest)
Question Format	Multiple-choice (single answer per question)
Time Allotted	230 minutes (3 hours and 50 minutes)
Question Distribution	The questions cover 3 domains (People, Process, and Business Environment)
Domains	• **People:** 42% (focus on leadership, team management, stakeholder engagement) • **Process:** 50% (focus on project management processes, methodologies) • **Business Environment:** 8% (focus on project alignment, strategy, and compliance)
Passing Score	PMI does not specify an exact score; however, you need to demonstrate competence in each domain.
Materials Allowed	None (no external resources, textbooks, etc.)
Languages Available	The exam is available in multiple languages, including English, Spanish, French, German, and others.

Comparison of PMBOK® Guide – Seventh Edition vs. Sixth Edition:

- **Structure:**

The 6th Edition was process-driven with 10 Knowledge Areas and 5 process groups. The 7th Edition shifts to principles-based guidance with 12 Principles & 8 Performance Domains.

- **Focus:**

The 6th Edition focused on processes & tools; the 7th emphasizes value delivery & adaptability.

- **Flexibility:**

The 7th Edition introduces greater flexibility with more focus on Agile and hybrid approaches, whereas the 6th Edition had a rigid, process-oriented approach.

PMP Terms Cheat Sheet:

No.	Term	Definition
1	Project	A temporary endeavor undertaken to create a unique product, service, or result.
2	Project Management	The application of knowledge, skills, tools, and techniques to project activities to meet project requirements.
3	Triple Constraint	The interrelationship between scope, time, and cost. Changes to one affect the others.
4	Stakeholder	Any individual, group, or organization that can impact or be impacted by a project.
5	Project Charter	A document that officially authorizes the project, outlining objectives, scope, and key stakeholders.
6	Work Breakdown Structure (WBS)	A hierarchical decomposition of the project scope into manageable sections.
7	Scope Creep	Uncontrolled changes or continuous growth in a project's scope without adjustments to time, cost, and resources.
8	Project Lifecycle	The series of phases a project goes through from initiation to closure.
9	Risk Management	The process of identifying, assessing, and controlling risks throughout the project.

No.	Term	Definition
10	Quality Management	Ensuring that the project's outputs meet the required standards and satisfy stakeholder needs.
11	Critical Path	The sequence of stages determining the minimum time needed for an operation.
12	Change Management	The process of managing changes to the project scope, timeline, or cost.
13	Earned Value Management (EVM)	A method used to assess a project's performance by comparing the planned progress with the actual progress.
14	Work Package	A specific deliverable or component of a WBS that can be assigned, scheduled, and budgeted.
15	Risk Register	A document containing all identified risks, their analysis, and planned responses.
16	Project Stakeholder Management	Involves identifying and engaging stakeholders and managing their expectations throughout the project.
17	Baseline	The approved version of a project's scope, schedule, and cost plan is used to measure project performance.
18	Milestones	Significant events or achievements in a project timeline, marking the completion of a phase or deliverable.
19	Communication Management	Ensuring timely and appropriate generation, collection, distribution, and storage of project information.
20	Procurement Management	The process of acquiring goods and services from external vendors for the project.
21	Resource Management	Planning, allocating, and utilizing resources (people, equipment, etc.) effectively and efficiently.

No.	Term	Definition
22	Quality Assurance vs. Quality Control	Quality Assurance (QA): Preventing defects by improving processes. Quality Control (QC): Identifying and correcting defects in the project deliverables.
23	Project Sponsor	The person or group that provides resources and support for the project and is accountable for its success.
24	Scope Management	The process of defining and controlling what is included and excluded in the project.
25	Agile Methodology	An iterative and incremental approach to project management that focuses on flexibility and customer feedback.
26	Gantt Chart	A visual representation of the project schedule showing tasks and their timelines.
27	Fast Tracking	A schedule compression technique where phases or activities are done in parallel instead of sequentially.
28	Crashing	A technique used to shorten the project schedule by adding more resources, typically at increased costs.
29	Lessons Learned	Documented knowledge gained from the project, which can be used to improve future projects.
30	Project Closeout	The process of finalizing all activities, handing over deliverables, and closing the project.
31	Work Authorization System	A formal process for ensuring that work is performed at the right time and in the right order
32	Key Performance Indicators (KPIs)	Metrics are used to assess the project's performance against its goals.

No.	Term	Definition
33	Resource Leveling	A technique used to adjust the project schedule to balance resource usage without changing the project scope.
34	Contingency Plan	A backup plan is developed to handle potential risks or unforeseen events that could impact the project.
35	Project Manager	The person responsible for leading and managing the project, ensuring it meets its objectives and goals.
36	Project Schedule	A timeline that includes all tasks, milestones, and deadlines for completing the project.
37	Schedule Management	The process of defining, planning, and controlling the project schedule to ensure timely completion.
38	Project Scope	The detailed description of the work required to complete the project, including deliverables and boundaries.
39	Work Authorization	Formal approval to begin work on a specific task or project component.
40	Project Management Plan	A formal document that defines the project's objectives, scope, stakeholders, timelines, and methods.
41	Cost Management	The process of planning, estimating, and controlling project costs to stay within the approved budget.
42	Cost Baseline	The approved version of the project budget is used as a benchmark to monitor cost performance.
43	Milestone List	A list of significant project events or achievements with their planned completion dates.

No.	Term	Definition
44	Deliverable	A tangible or intangible output produced by the project, such as a report, product, or service.
45	Team Development	The process of building, developing, and leading a project team through the stages of forming, storming, norming, and performing.
46	Project Kickoff	The formal initiation of a project, marking the start of the project's execution phase.
47	Control Scope	The process of monitoring and managing changes to the project's scope to ensure it stays on track.
48	Integrated Change Control	The process of reviewing and controlling changes to the project's scope, schedule, and cost to minimize disruption.
49	Acceptance Criteria	The set of conditions that must be met for a project deliverable to be accepted by the client or sponsor.
50	Resource Histogram	A chart that visually represents the resources required by a project over time.
51	Risk Mitigation	The process of reducing the probability or impact of a risk event by taking preventive measures.
52	Risk Response Plan	A strategy for addressing identified project risks, including avoidance, transfer, mitigation, or acceptance.
53	Work Performance Data	Raw data collected during project execution, including actual performance metrics for scope, schedule, and cost.
54	Work Performance Information	Processed work performance data, analyzed to provide insights into project performance.
55	Earned Value (EV)	The value of the work actually completed to date, expressed in terms of the approved budget.

No.	Term	Definition
56	Planned Value (PV)	The approved budget assigned to scheduled work to be performed by a specific time.
57	Actual Cost (AC)	The total costs incurred for the work performed during a specific period.
58	Cost Variance (CV)	The difference between earned value (EV) and actual cost (AC). A positive CV indicates the project is under budget.
59	Schedule Variance (SV)	The difference between earned value (EV) and planned value (PV). A positive SV indicates the project is ahead of schedule.
60	Cost Performance Index (CPI)	A measure of cost efficiency, calculated by dividing earned value (EV) by actual cost (AC).
61	Schedule Performance Index (SPI)	A measure of schedule efficiency, calculated by dividing earned value (EV) by planned value (PV).
62	Resource Constraints	Limitations in the availability of resources (e.g., labor, materials) that impact project progress.
63	Procurement Plan	A document outlining how goods and services will be acquired for the project, including vendor selection.
64	Procurement Statement of Work (SOW)	A detailed description of the work to be done by a vendor or supplier in a project.
65	Stakeholder Analysis	The process of identifying stakeholders and analyzing their interests, influence, and impact on the project.
66	Change Control Board (CCB)	A group of stakeholders responsible for reviewing and approving project changes.
67	Communication Plan	A document outlining how project information will be communicated, who will receive it, and the frequency of communication.

No.	Term	Definition
68	Monte Carlo Simulation	A risk analysis technique that uses statistical models to predict the impact of risk on project outcomes.
69	Affinity Diagram	A tool used to organize ideas or issues into related groups to identify patterns or themes.
70	Decomposition	The process of breaking down the project deliverables into smaller, manageable components.
71	Negotiation	The process of resolving differences or reaching agreements with stakeholders, suppliers, or team members.
72	Stakeholder Register	A document that contains information on project stakeholders, including their interests, roles, and contact details.
73	RACI Matrix	A responsibility assignment chart that clarifies who is responsible, accountable, consulted, and informed for each task or decision.
74	Project Dashboard	A visual tool used to monitor key performance indicators (KPIs) and project metrics, offering a quick overview of project health.
75	Fast-Tracking	A project schedule compression technique where tasks that were originally planned in sequence are done in parallel to save time.
76	Critical Chain Method	A schedule management technique that takes resource constraints into account and adds buffers to manage risks.
77	Work Breakdown Structure Dictionary	A document that provides detailed information about each component of the WBS, including descriptions and deliverables.
78	Functional Organization	An organizational structure where team members report to a functional manager and are grouped by specialty (e.g., marketing, finance).

No.	Term	Definition
79	Matrix Organization	An organizational structure where team members report to both a functional manager and a project manager.
80	Project Portfolio Management (PPM)	The centralized management of multiple projects or programs to achieve strategic objectives.
81	Integrated Project Management	The process of coordinating and aligning all project components to ensure they work together effectively and achieve the project goals.
82	Contingency Reserve	A budget or schedule allowance included in the project plan to account for identified risks or unforeseen circumstances.
83	Management Reserve	A portion of the project's budget or schedule set aside for unknown risks or events, typically controlled by senior management.
84	Project Closure	The final phase of the project lifecycle, where deliverables are handed over, and the project is formally closed.
85	**Project Scope Statement**	A detailed description of the project's deliverables, objectives, and boundaries, providing a clear understanding of what is included and excluded.
86	Procurement Management Plan	A document that outlines how the procurement process will be managed, including vendor selection and contract types.
87	Scope Baseline	The approved version of the project scope, including the scope statement, WBS, and WBS dictionary, used as a reference to measure project performance.
88	Milestone Chart	A chart used to visually represent key milestones and their target completion dates throughout the project timeline.

No.	Term	Definition
89	Earned Value Analysis (EVA)	A technique used to assess project performance by comparing the planned value (PV), actual cost (AC), and earned value (EV) of the project.
90	Variance Analysis	A technique for analyzing the difference between planned and actual performance, often used in schedule and cost management.
91	Force Majeure	A clause in contracts that excuses parties from fulfilling their obligations due to unforeseen events, like natural disasters or war.
92	Work Breakdown Structure (WBS) Levels	The hierarchical breakdown of the work required for the project, with each level representing increasing levels of detail.
93	Project Manager Competency Development (PMCD)	The continuous development and assessment of a project manager's skills and abilities through experience, education, and formal training.
94	Resource Breakdown Structure (RBS)	A hierarchical structure that organizes resources (people, equipment, materials) required for the project.
95	Configuration Management	A process for ensuring the project's deliverables and documents are accurately identified, tracked, and controlled throughout the project lifecycle.
96	Leadership Skills	Essential abilities for a project manager including communication, decision-making, negotiation, conflict resolution, and team motivation.
97	Project Audits	Independent assessments are conducted during or after the project to evaluate performance, identify issues, and ensure alignment with objectives.

No.	Term	Definition
98	Critical Path Method (CPM)	A project management technique used to determine the longest sequence of activities that must be completed on time for the project to finish on schedule.
99	Resource Smoothing	A technique for adjusting the project schedule to ensure that resource usage is evenly distributed, without altering the project duration.
100	Responsibility Assignment Matrix (RAM)	A tool used to show the relationships between project tasks and the individuals or groups responsible for them.

PMP FORMULAS CHEAT SHEET

Integration Management:

Formula	Description	Explanation
Budget at Completion (BAC)	BAC = Planned Budget for the total project	The total approved budget for the project.
Estimate at Completion (EAC)	EAC = BAC / CPI	Forecasts the total cost of the project based on current performance. BAC = Budget at Completion, CPI = Cost Performance Index.
Estimate at Completion (EAC)	EAC = AC + (BAC - EV)	Another way to forecast the total project cost. BAC = Budget at Completion, EV = Earned Value, AC = Actual Cost.
Variance at Completion (VAC)	VAC = BAC - EAC	The difference between the original budget (BAC) and the forecasted cost at completion (EAC).
Work Breakdown Structure (WBS)	WBS = Breakdown of project scope	Breaks the project scope into smaller, more manageable components.
Scope Change	Scope Change = Revised Scope - Original Scope	Adjustments or changes made to the project scope after initial approval.

Schedule Management:

Formula	Description	Explanation
Schedule Performance Index (SPI)	SPI = EV / PV	Measures schedule efficiency. An SPI greater than 1 means the project is ahead of schedule. EV = Earned Value, PV = Planned Value.
Schedule Variance (SV)	SV = EV - PV	Shows how much ahead or behind schedule the project is. A positive SV means ahead of schedule. EV = Earned Value, PV = Planned Value.
Planned Value (PV)	PV = % of Planned Work Completed x BAC	The budgeted cost for work that was planned to be completed by a certain point. BAC = Budget at Completion.
Earned Value (EV)	EV = % of Actual Work Completed x BAC	The budgeted cost for the work that has been completed by a certain point. BAC = Budget at Completion.
Activity Duration (AD)	AD = (EF - ES) + 1	The total time required to complete an activity. EF = Early Finish, ES = Early Start.
Critical Path	Critical Path = Longest Path through the network diagram	The sequence of activities that determines the shortest time to complete the project.
Slack or Float	Float = LS - ES or Float = LF - EF	The amount of time a task can be delayed without delaying the project. LS = Late Start, ES = Early Start, LF = Late Finish, EF = Early Finish.
Total Float	Total Float = LF - EF or Total Float = LS - ES	The total time an activity can be delayed without affecting the project end date.
Free Float	Free Float = ES of Next Activity - EF of Current Activity	The amount of time an activity can be delayed without affecting the early start of any dependent activities.

Formula	Description	Explanation
Critical Path Method (CPM)	CPM: Total duration of all critical path activities.	Calculates the longest duration path in a project schedule.
Lead Time	Time overlap between dependent tasks	The amount of time a dependent task can start before the predecessor task is complete.
Lag Time	Delay between dependent tasks	The amount of time that must elapse between tasks before one can start after the other.
Activity Compression	Crashing or Fast Tracking	Techniques to shorten the project schedule without changing the scope.
Earned Schedule (ES)	ES = (EV / PV) x Planned Duration	A schedule performance measure similar to Earned Value, but focuses on time.
Time-Scaled Network Diagram	Task map including time factors	A project schedule that maps tasks over time on a network diagram.

Cost Management:

Formula	Description	Explanation
Cost Performance Index (CPI)	CPI = EV / AC	Measures cost efficiency. A CPI greater than 1 means the project is under budget. EV = Earned Value, AC = Actual Cost.
Cost Variance (CV)	CV = EV - AC	Shows how much under or over budget the project is. A positive CV means under budget. EV = Earned Value, AC = Actual Cost.
Actual Cost (AC)	AC = Total costs incurred for work completed	The total costs incurred to date for the work actually completed.

Formula	Description	Explanation
Estimate to Complete (ETC)	ETC = EAC - AC	The estimated cost to finish the remaining project work. EAC = Estimate at Completion, AC = Actual Cost.
To-Complete Performance Index (TCPI)	TCPI = (BAC - EV) / (BAC - AC)	Measures the cost performance required to complete the project within budget. BAC = Budget at Completion, EV = Earned Value, AC = Actual Cost.
Cost Baseline	Approved version of project budget	The approved version of the project's budget, used as a benchmark for measuring cost performance.
Burn Rate	Burn Rate = AC / Time	The rate at which the project is spending its budget. AC = Actual Cost.
Net Present Value (NPV)	NPV = Cash Inflows - Cash Outflows	The difference between the present value of cash inflows and outflows over a project's life.
Internal Rate of Return (IRR)	IRR = Discount rate where NPV = 0	The discount rate that makes the net present value of a project zero.
Return on Investment (ROI)	ROI = (Net Profit / Investment) x 100	Measures the profitability of the project.
Payback Period	Payback Period = Initial Investment / Annual Inflows	The time required to recover the initial investment through cash inflows.

Procurement Management:

Formula	Description	Explanation
Sharing Ratio	Y% / 2% (e.g., 80% / 20%)	Represents the split of cost savings or overruns between the buyer and seller in an incentive-based contract. Y% = Buyer's Share, 2% = Seller's Share.

Formula	Description	Explanation
To-Complete Performance Index (TCPI)	TCPI = (BAC - EV) / (BAC - AC)	Measures the cost performance required to complete the project within budget. BAC = Budget at Completion, EV = Earned Value, AC = Actual Cost.
Cost Baseline	Approved version of project budget	The approved version of the project's budget, used as a benchmark for measuring cost performance.
Burn Rate	Burn Rate = AC / Time	The rate at which the project is spending its budget. AC = Actual Cost.
Net Present Value (NPV)	NPV = Cash Inflows - Cash Outflows	The difference between the present value of cash inflows and outflows over a project's life.
Internal Rate of Return (IRR)	IRR = Discount rate where NPV = 0	The discount rate that makes the net present value of a project zero.
Return on Investment (ROI)	ROI = (Net Profit / Investment) x 100	Measures the profitability of the project.
Payback Period	Payback Period = Initial Investment / Annual Inflows	The time required to recover the initial investment through cash inflows.

Explanation of Key Terms:

- **TC (Target Cost):** The estimated cost baseline for the contract.
- **AC (Actual Cost):** The actual cost incurred by the seller for project execution.
- **TF (Target Fee):** The agreed fee for meeting the target cost.
- **AF (Actual Fee):** The fee adjusted for performance, which may include incentives or penalties.
- **Savings:** The cost saved when actual costs are less than the target cost.
- **Bonus:** An additional incentive paid to the seller based on cost savings.

Communication Management:

Formula	Description	Explanation
Communication Channels	Channels = n(n-1)/2	The number of communication channels in a project, where n = number of stakeholders.

Risk Management:

Formula	Description	Explanation
Expected Monetary Value (EMV)	EMV = P * I	Calculates the contingency reserve for risks based on probability (P) and impact (I). EMV is used to determine the overall financial impact of known risks.
Monte Carlo Simulation	Simulating project risks	A statistical tool to assess project risks and variability.
Contingency Reserve	Sigma (P * I) of Known Risks	The calculated reserve to address identified risks, where P = Probability, and I = Impact of each risk.
Earned Value - Actual Cost (EV - AC)	Difference between planned and actual cost	Measures the cost variance for assessing project risk impacts. EV = Earned Value, AC = Actual Cost.

PMP Concepts Cheat Sheet:

Here are the important PMP concepts to help you prepare for your exam. Let's get started:

Term	Definition
Project Management Plan	The roadmap for the entire project, including baselines, strategies, and detailed management plans.
Configuration Management Plan	Defines how project information will be stored, updated, and maintained to ensure smooth project operations.

Term	Definition
Configuration Control	Focuses on managing and tracking project process specifications and their changes.
Performance Measurement Baseline	A standard for measuring the project's progress, including scope, costs, schedule, and resources.
Project Life Cycle	The entire process of a project, from initiation to completion, including all intermediate stages.
Development Approach	The chosen method for developing a product or service, such as agile, predictive, or others.
Management Reviews	Regular evaluations of the project to assess performance and ensure it stays on track.
Change Log	A record of all changes made throughout the project, tracking modifications and their impact.
Change Management Plan	A guide to handling changes systematically and ensuring they are introduced in a controlled manner.
Change Control	The process of managing and tracking changes to project documents, aligning them with objectives.
Scope Management Plan	Outlines how project scope will be defined, validated, & controlled, preventing scope creep.
Work Breakdown Structure (WBS)	A hierarchical breakdown of all deliverables and work required for the project, dividing tasks into smaller units.
Stakeholder Register	A list of all project stakeholders, their roles, interests, influence, and communication needs.
Risk Management Plan	Describes how risks will be identified, analyzed, and mitigated throughout the project.
Critical Path Method (CPM)	A technique to determine the longest sequence of activities that must be completed on time for the project to finish on schedule.

Term	Definition
Resource Breakdown Structure (RBS)	A hierarchical structure categorizing and defining resources needed for the project (personnel, equipment, materials).
Earned Value Management (EVM)	A method to measure project performance by comparing planned progress with actual progress to determine cost and schedule status.
Risk Register	A tool documenting risks, their severity, likelihood, and response plans, helping track and manage risks.
Quality Management Plan	Describes how quality will be managed, monitored, and assured, ensuring the project meets quality standards.
Lessons Learned Register	A record capturing lessons learned throughout the project to improve future projects.

Key Tools and Techniques

Knowledge Area	Tools and Techniquest	Description
Risk Management	Risk Register	A document that tracks identified risks, their impact, and mitigation strategies.
	Qualitative Analysis	Assesses risks based on probability and impact, typically using a matrix.
	Quantitative Analysis	Uses numerical methods to predict risk impacts.
Schedule Management	Gantt Charts	Visual representation of project timeline, showing tasks, durations, and milestones.
	Critical Path Method (CPM)	Determines the longest path of dependent tasks to ensure timely completion.

Schedule Management:

Knowledge Area	Tools and Techniquest	Description
Stakeholder Engagement	Stakeholder Matrix	Categorizes stakeholders by influence and interest for targeted engagement strategies.
	Communication Plans	Defines how and when project information will be communicated to stakeholders.
Resource Management	Responsible, Accountable, Consulted, & Informed (RACI) Matrix	This tool helps define roles and responsibilities for a project or business function.
	Resource Levelling	Adjusts project schedules to balance resource usage and avoid overload.
Change Management	Change Control Boards (CCB)	A formal group that reviews and approves changes to project scope, schedule, or costs.
	Impact Analysis	Evaluates the effect of proposed changes on the project objectives, costs, and schedule.
Metrics and Reporting	Earned Value Management (EVM)	Compares planned vs. actual progress to measure project performance.
	Key Performance Indicators (KPIs)	Measurable values used to track project performance and effectiveness.

Tips for PMP Exam Preparation

- Understand the principles and domains in depth.
- Familiarise yourself with Agile, predictive, and hybrid approaches.
- Focus on scenario-based questions and situational judgment.
- **Practice mock exams** to refine time management and accuracy.
- Tailor study methods to your learning style (visual, auditory, kinesthetic).