Introduction to Project Management

Solutions manual and marking guidance (for learners checking their work, and for instructors).

O1: Explain what a project is, and how it differs from everyday work (operations).

Q01 [Foundational · classification] Project or operations? (a) answering customer calls every day (b) launching a new website (c) monthly payroll (d) moving the office to a new building

Answer: (a) operations (b) project (c) operations (d) project

1. Projects are temporary and unique; operations are ongoing and repeated.

Q02 [Foundational · short answer] What two key words does PMI's definition use to describe a project?

Answer: Temporary and unique.

1. A temporary endeavour creating a unique product, service or result.

Q03 [Core · true/false] True or false: a project cannot be similar to any earlier project.

Answer: False

1. 'Unique' means the result is new in some respect, not that nothing similar exists.

Q04 [Core · explanation] Why do organisations need both projects and operations?

Answer: Operations keep the business running; projects change or improve it (new products, systems, locations).

1. Projects often hand their results over to operations.

Q05 [Applied · application] A hospital introduces a new patient booking system. Identify the project and the operations involved.

Answer: Project: selecting, building and launching the system. Operations: daily use of the system to book patients afterwards.

1. The project ends at handover; operations continue.

Q06 [Applied · explanation] What does a project manager mainly do, if not all the work?

Answer: Plans, coordinates, communicates, removes obstacles and makes decisions so the team can do the work.

1. Leila did not cook or print posters.

O2: Describe objectives, scope, schedule, resources, stakeholders and risk.

Q07 [Foundational · short answer] What is scope creep?

Answer: Uncontrolled growth in scope through small additional requests.

1. Prevent it by stating what is out of scope and using change control.

Q08 [Foundational · multiple choice] Which objective is best? (a) 'Improve the website' (b) 'Make customers happier' (c) 'Cut page load time to under 2 seconds by 31 March within $5,000' (d) 'Do our best'

Answer: (c)

1. Specific, measurable, with a deadline and budget.

Q09 [Core · short answer] Define a stakeholder and give three examples for a school building project.

Answer: Anyone who affects or is affected by the project; e.g. the school board, teachers, neighbours, builders, students, the planning office.

1. Different stakeholders need different levels of attention.

Q10 [Core · classification] Place on a power-interest grid: (a) the sponsor (b) local residents (c) a regulator who rarely engages

Answer: (a) manage closely (b) keep informed (c) keep satisfied

1. High power + high interest = manage closely, etc.

Q11 [Applied · application] Risk: the main supplier may go out of business. Give one response of each type: avoid, reduce, transfer, accept.

Answer: Avoid: choose a different supplier; reduce: qualify a second supplier; transfer: contract with penalties or insurance; accept: keep a contingency reserve and monitor.

1. Choose based on probability, impact and cost of the response.

Q12 [Applied · application] Write a work breakdown structure (two levels) for organising a graduation ceremony.

Answer: Example: Venue (book, layout); Guests (invitations, seating); Programme (speakers, order); Logistics (catering, sound, security); Communications (website, reminders).

1. Lowest-level items should be assignable and estimable.

Q13 [Advanced · evaluation] A project has a contingency reserve of 0%. Evaluate this decision.

Answer: Risky: estimates are uncertain, so any problem forces cuts in scope or quality, delays, or extra funding requests.

1. A reserve sized to identified risks protects the objectives.

O3: Follow a project through its life cycle, from start to close.

Q14 [Foundational · short answer] Name the five process groups in the PMBOK Guide (6th edition).

Answer: Initiating, planning, executing, monitoring and controlling, closing.

1. Monitoring and controlling runs throughout.

Q15 [Foundational · true/false] True or false: a project is finished as soon as the main event or delivery happens.

Answer: False

1. Closing includes payments, handover, release of the team and lessons learned.

Q16 [Core · short answer] Halfway through a project, a manager asks for an extra feature. What should the project manager do first?

Answer: Assess the impact on scope, time, cost and risk, then follow change control for a formal decision.

1. Neither accept nor refuse automatically.

Q17 [Core · short answer] Name two activities that must happen before a project is closed.

Answer: Any two: pay final invoices and compare costs; hand over results and return resources; confirm acceptance; release the team; record lessons learned.

Q18 [Applied · application] Marketing (on the critical path) is one week late; vendors has one week of float. What corrective action did Leila take, and why did it work?

Answer: She moved a volunteer from vendors to marketing; vendors could absorb a week's delay, while marketing could not.

1. Use float to protect the critical path.

Q19 [Advanced · comparison] Compare predictive (traditional) and adaptive (agile) approaches, with one situation suited to each.

Answer: Predictive: scope known early (building a bridge). Adaptive: requirements expected to change (a new app); short cycles with regular feedback.

1. Both use objectives, stakeholders, risk and control.

O4: Use a simple schedule and budget to make decisions.

Q20 [Foundational · numerical] Tasks in one chain take 2, 5 and 1 weeks; another chain takes 3 and 1 weeks. What is the project duration?

Answer: 8 weeks

1. The longest chain: 2 + 5 + 1.

Q21 [Core · numerical] Task A 3 days; B 4 and C 2 days, both after A; D 1 day after B and C. Find the duration, critical path and float of C.

Answer: 8 days; A-B-D; C has 2 days of float

1. A-B-D = 3 + 4 + 1 = 8; A-C-D = 6.

Q22 [Core · numerical] A $50,000 project keeps a 12% contingency reserve. How much is available for planned costs?

Answer: $44,000

1. Reserve = 0.12 x 50,000 = 6,000.

Q23 [Applied · numerical] PV = $12,000, EV = $10,000, AC = $11,000. Calculate SV and CV and interpret them.

Answer: SV = -$2,000 (behind schedule); CV = -$1,000 (over budget).

1. SV = EV - PV; CV = EV - AC.

Q24 [Applied · numerical] In the website example, the content task slips by 3 days. Does the project finish late? (Content float = 2 days.)

Answer: Yes, by 1 day

1. A 3-day slip exceeds 2 days of float, so the project ends on day 13.

Q25 [Advanced · decision] A change will cost $1,500 and the reserve is $2,000; another risk with a likely cost of $1,000 is still open. Should the change be approved? Justify.

Answer: Approval leaves $500, less than the likely $1,000 risk cost: approve only with extra funding, a cheaper option or acceptance of the risk by the sponsor.

1. Decisions weigh benefit against remaining reserve and open risks.

Marking scheme: Assignment 1: plan a small project (individual)

- Objective and scope: 3 marks
- WBS and Gantt chart: 4 marks
- Critical path and float correct: 4 marks
- Budget and reserve: 3 marks
- Stakeholders and risks: 4 marks
- Monitoring and closing plan: 2 marks (total 20)

Marking scheme: Assignment 2: lessons learned review (pairs)

- Accurate mapping: 4 marks
- Correct use of concepts: 4 marks
- Practical, justified recommendations: 4 marks (total 12)