Occupational Certificate: Project Manager

SAQA ID 101869 | NQF Level 5 | 240 Credits

Knowledge Module 06 — Project Quality Management

NQF Level 5 | 8 Credits

SUMMATIVE ASSESSMENT

Open-book Knowledge Assessment — completed individually at the end of the Knowledge Module

Learner name: _____ **Date:** _____

Facilitator/Assessor: _____

Assessment Information

Time allowed: [to be confirmed by the facilitator]

Core total: 100 marks (Questions 1–3) **Pass mark:** 70% (70/100) — confirm against your provider's assessment strategy

Bonus: up to 20 additional marks (Case Study) — added to your raw score for Questions 1–3 and does not count against you

Instructions to the learner

- This is an OPEN-BOOK assessment — you may refer to your Knowledge Module Guide and your own notes, but it must be completed individually, without discussing answers with other learners.
- Answer ALL questions in Section 1–3 in the spaces provided; the number of marks is shown after each question and indicates how much detail is expected.
- Where a question asks for a specific number of items (e.g. "any three"), only that number will be marked — do not exceed it.
- The Bonus Case Study at the end is optional but strongly encouraged — because this is an open-book test, it is designed to check that you can apply what you've learned, not just find it in the Guide.
- Write clearly. Marks are awarded for accurate, relevant content, not length.

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Question 1 — KT 01 — Plan Quality Management (30 marks)

1.1 List the THREE quality standards named in the Guide's discussion of "Project Standards", and state in one short phrase what each one covers. **[3 marks]**

1.2 According to the Guide, what TWO things does the Plan Quality process focus on? **[2 marks]**

1.3 List any FIVE of the seven inputs the Plan Quality process requires, according to the Guide. **[5 marks]**

1.4 Name any FOUR of the seven tools and techniques the Guide lists as being used in the Plan Quality process. **[4 marks]**

1.5 Define "control limits" as used on a control chart, and explain what the "Rule of Seven" tells the project manager. **[4 marks]**

1.6 True or False, with justification: According to the Guide's discussion of Cost of Quality, the costs of conformance should be higher than the costs of non-conformance. **[3 marks]**

1.7 List the THREE situations the Guide gives for when statistical sampling should be used instead of auditing an entire population. **[3 marks]**

1.8 List any FOUR of the five outputs of the Plan Quality process named in the Guide. **[4 marks]**

1.9 Once quality metrics have been set (Step #3 of developing a project quality plan template), the Guide says they will be used later in which TWO activities? **[2 marks]**

Question 2 — KT 02 — Perform Quality Assurance (30 marks)

2.1 List any THREE of the four benefits of quality assurance discussed in the Guide. **[3 marks]**

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2.2 List all FIVE input documents to assure the project quality named in the Guide. **[5 marks]**

2.3 Name the FOUR main processes the Guide says project management (in relation to quality) consists of. **[4 marks]**

2.4 Distinguish between quality assurance and quality control as explained in the Guide. **[4 marks]**

2.5 Name, in order, the FIVE levels of project quality maturity described in the Guide's discussion of Maturity Models. **[5 marks]**

2.6 List any FIVE of the quality assurance tools and techniques named in the Guide. **[5 marks]**

2.7 Name the TWO principles that quality assurance includes, according to the Guide. **[2 marks]**

2.8 List any TWO of the four outputs of the quality assurance process named in the Guide. **[2 marks]**

Question 3 — KT 03 — Control Quality (40 marks)

3.1 Name the THREE things that quality management activities ensure, according to the Guide. **[3 marks]**

3.2 Distinguish between quality control activities and quality assurance activities, as described under the Guide's discussion of the Quality Management Plan. **[4 marks]**

3.3 Name any FOUR of the seven components the Guide says a Quality Management Plan describes. **[4 marks]**

3.4 List, in order, the SIX steps the Guide describes for implementing an effective quality control programme. **[6 marks]**

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3.5 Name, in order, the THREE processes within the Project Quality Management knowledge area listed in the Guide. **[3 marks]**

3.6 List any FIVE of the eight inputs to the Control Quality process named in the Guide. **[5 marks]**

3.7 List any FIVE of the eight outputs of the Control Quality process named in the Guide. **[5 marks]**

3.8 Distinguish between "Quality" and "Grade" as defined in the Guide, and illustrate the distinction using the example given. **[3 marks]**

3.9 Name the FOUR tools and techniques for Control Quality listed in the Guide. **[3 marks]**

3.10 Distinguish between "Tolerance" and "Control Limits" as defined in the Guide. **[2 marks]**

3.11 Name any TWO of the five example points from Deming's management philosophy quoted in the Guide. **[2 marks]**

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★ Bonus Question — Case Study

20 bonus marks (added to your raw score for Questions 1–3; not required to pass)

Case Study: The Sunrise Ridge Solar Micro-Grid Project

SolarNova Energy Systems, a renewable-energy contractor, was appointed by a rural district health department to design and install a solar micro-grid and battery back-up system for a rural clinic. The events below happened, in order, over the life of the project.

The events, in order:

- At the outset, SolarNova's project manager, Thabo, worked with the clinic and the funder to decide what "quality" meant for this project — using the clinic's electrical-safety requirements and the national electrical code — and produced a Quality Management Plan that named the project's quality objectives, listed the deliverables that would be reviewed for quality, and set out that the project manager, the installation team, the clinic's facilities manager and the funding sponsor would each be responsible for quality on the project.
- Thabo's team then drew up a written checklist of the individual inspection steps every solar panel mounting and inverter installation had to pass before it could be signed off as accepted.
- Partway through the installation, a reviewer who had not been involved in the cabling work sat in on the electrical team's process for terminating and testing cable joints — not to inspect the finished joints themselves, but to confirm that the team was following the documented installation procedure, step by step, exactly as written.
- Once each batch of 20 completed cable joints was ready, a technician tested every joint's electrical resistance and recorded a simple pass/fail result against the specified threshold. In one batch, 3 of the 20 joints failed.
- Over the following week, the technician also plotted each day's average resistance reading for accepted joints on a chart against a target line. Seven consecutive daily readings fell above the target line — even though every one of those seven readings was still individually within the accepted range for resistance.
- Once this pattern was flagged, the installation engineer raised a formal request to change the joint-crimping procedure. The project sponsor reviewed and approved the request, and the Quality Management Plan was updated to reflect the new procedure.

Use the scenario above, together with what you have learned in this Knowledge Module, to answer the following:

B1 Was the reviewer's action described in event 3 an example of Quality Assurance or Quality Control? Was the technician's pass/fail testing in event 4 an example of Quality Assurance or Quality Control? In each case, justify your answer using the distinction given in the Guide. **[6 marks]**

B2 Name the sampling method the technician used for the cable-joint testing in event 4, and distinguish it from the other sampling method named in the Guide. **[4 marks]**

B3 Explain why the pattern of readings in event 5 was correctly treated as a sign the process was "out of control", even though every individual reading was within the accepted range. Name the specific rule that applies, and explain the difference between the two concepts that must be distinguished to understand this. **[5 marks]**

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B4 Name the sequence of actions the Guide says should follow once quality control measurements reveal quality levels below the standard set in the Quality Management Plan, and confirm that event 6 followed this sequence correctly. **[3 marks]**

B5 Name TWO of the components the Guide lists under "Quality Plan Components" that Thabo's Quality Management Plan in event 1 put in place, quoting the evidence from the scenario for each. **[2 marks]**

Core total: 100 marks | Bonus: up to 20 marks | Maximum possible: 120 marks

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