higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NATIONAL CERTIFICATE (VOCATIONAL)

PROJECT MANAGEMENT
NQF LEVEL 4

(3081034)

22 November 2018 (Y-Paper)
13:00–16:00

This question paper consists of 8 pages.

TIME: 3 HOURS
MARKS: 150

INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions.
2. Read ALL the questions carefully.
3. Number the answers according to the numbering system used in this question paper.
4. Start each question on a NEW page.
5. Write neatly and legibly.

SECTION A

QUESTION 1

Various options are given as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number (1.1–1.10) in the ANSWER BOOK.

1.1 A … is a graphic representation of project activities shown as a time-scaled bar line.

A work schedule
B work package
C gantt chart
D bar chart

1.2 A … is a significant event on a project, usually the completion of a major deliverable.

A milestone
B schedule
C phase
D work package

1.3 Which one of the following is NOT a stakeholder in an Eskom project?

A Sponsor
B Team member
C A representative from the project team's union
D A representative from the competition

1.4 A huge storm may damage parts of the power station during the project. The project team should …

A ignore the damages
B rebuild the entire power station
C have a contingency plan in place
D not consider such a risk during planning and implementation

1.5 The critical path method, together with the precedence diagram, Work Breakdown Structure and activity sequencing, enables the project manager and the project team to develop a …

A system
B project life cycle
C structure
D project schedule

1.6 … is the most dangerous type of risk.

A High likelihood, low impact
B High likelihood, high impact
C Low impact, low likelihood
D High impact, low likelihood

1.7 ... consists of quality planning, quality assurance and quality control.

A Project risk management
B Project procurement management
C Project quality management
D Project scope management

1.8 … is NOT a milestone for building a house.

A Foundation laid
B Walls constructed
C Furniture bought
D Roof built

1.9 ... is a researched-based process of examining the success of a project in relation to its purpose.

A Project evaluation
B Lessons learnt
C A review
D Observation

1.10 … is/are documented and stored information pertaining to the continuous improvement suggestions for handling similar projects in the future.

A Project scope
B Source documents
C Lessons learnt
D Communication plan

(10 × 1) **[10]**

QUESTION 2

Choose a term from COLUMN B that matches a description in COLUMN A. Write only the letter (A–N) next to the question number (2.1–2.10) in the ANSWER BOOK.

COLUMN A		COLUMN B	
2.1	One or more characteristics of a product fail to meet specified requirements	A	project sponsor
2.2	Prepared by a project manager to identify risks, to estimate the impact of each risk and to create response plans to minimize the effect of the risks	B	critical success factors
2.3	A schedule of communicating events to ensure that stakeholders are kept informed	C	communication plan
2.4	A formal request from a member of the project team, a client, a coordinator or a key stakeholder to make changes to the project scope	D	change request
2.5	A key stakeholder, usually an executive in the organisation, with authority to sign resources and enforce decisions regarding the project	E	contingency plan
2.6	Funds unexpectedly not being available in the amounts or at the time planned for	F	non-conformance
2.7	Analysis of the project in terms of strength, weaknesses, opportunities and potential threats for the project	G	beneficiary
2.8	List of topics to be discussed in a meeting	H	risk management plan
2.9	Breaking down of the project into manageable tasks	I	financial risk
2.10	A point when a deliverable or set of deliverables is available	J	steering committee meeting
		K	SWOT analysis
		L	milestone
		M	agenda
		N	work break-down structure

(10 × 1) **[10]**

TOTAL SECTION A: 20

SECTION B

Read the case study below carefully and answer the questions.

Kusile Power Station Project

Eskom's new coal-fired power station

Project description

The Kusile power station project, located near the existing Kendal power station in the Nkangala district of Mpumalanga, will comprise of six units. Once completed, Kusile will be the fourth-largest coal-fired power station in the world.

The power station will be the first in South Africa to install flue-gas desulphurisation (FGD) – a state-of-the-art technology used to remove oxides of sulphur, such as sulphur dioxide, from exhaust flue gases in power plants that burn coal or oil. This technology is fitted as an atmospheric emission abatement technology, in line with current international practice, to ensure compliance with air-quality standards, especially since the power station is located in a priority air shed area.

The operational life of the power station is expected to be 60 years. The total estimated cabling to be installed for Kusile is 5 300 km. The bulk of the coal will be sourced from mine mouths in the local area, with further exploration continuing.

Costs as at 31 January 2015 – inception to date – amount to R82 billion excluding interest during construction. The total cost of the project is R118,5 billion.

Latest developments

MHPSA, previously known as Hitachi Power Africa, is the main boiler contractor at the troubled power projects, which have been plagued by delays, labour strikes and funding difficulties. Eskom, which is facing major claims across both sites, is yet to provide a final cost estimate for the projects. Besides promising that Medupi Unit 6 will be synchronised in February, Eskom has also not provided a definitive update regarding the expected interval between units.

Kusile recently achieved a few project milestones as a build-up towards Unit 1 Synchronisation. In October 2014 the 910 MVA generator step-up transformer, weighing 300 tons, was put on its foundation. All electrical integrity tests were performed successfully to confirm that the transformer is ready to receive power.

In September a lubricating oil flush was done to all the bearings on the turbine train to ensure that sufficient oil will be supplied for lubrication of the bearings and to confirm that there are no leaks or blockages in the pipework. Approximately 300 employees were involved in preparing and placing Rebar and concrete shutters. All this took about three months to execute.

Source: Adapted from www.eskom.co.za/Whatweredoing/NewBuild/Pages/Kusile_Power_Station

QUESTION 3

3.1 3.1.1 Name the type of project that is described in the scenario above. (1)

3.1.2 Name any FIVE other types of projects. (5 × 1) (5)

3.2 Discuss TWO roles of each of the following stakeholders:

3.2.1 Project sponsor

3.2.2 Project manager

3.2.3 Project team members

(2 × 3) (6)

3.3 Identify TWO objectives for the Kusile Power Station project. (2 × 2) (4)

3.4 Discuss FOUR assumptions relevant to this project. (4 × 2) (8)

3.5 What is the estimated cost to complete this project? (2)

3.6 All projects require sound communication plans. However, not all projects use the same methods or procedures for distributing information to stakeholders.

Explain FIVE communication procedures that the project manager of the Kusile Power Station project should use to communicate with stakeholders.

(5 × 2) (10)

3.7 What is the estimated life cycle of the Kusile Power Station project? (1)

3.8 As a project team member of the Kusile Power Station project, you must be aware of project delivery strategies.

Give a short description of the following project delivery strategies:

3.8.1 One-shot

3.8.2 Incremental

3.8.3 Iterative

3.8.4 Phase

(4 × 2) (8)

[45]

QUESTION 4

4.1 Explain SIX aspects the project manager of the Kusile Power Station project should consider when developing the project scope statement. (6 × 1) (6)

4.2 Explain FOUR quality control activities that the project manager of the Kusile Power Station project may use to improve the quality of the deliverables. (4 × 2) (8)

4.3 Describe the impact of good quality management on this project. (4 × 2) (8)

4.4 What factors should the project manager of the Kusile Power Station consider when guiding his team members on a task that has not been done well? (3 × 2) (6)

4.5 How would the Kusile Power Station project manager develop a report to meet the client's needs and time frames for this project? (4 × 2) (8)

4.6 Differentiate between *technical risks* and *financial risks*. (6 × 1) (6)

4.7 Develop a list of internal constraints that may influence the Kusile Power Station project. (6 × 1) (6)

4.8 Explain the purpose of the schedule of activities for this project. (2 × 1) (2)

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QUESTION 5

5.1 The project has been running for six months and the project manager notices a decrease in efficiency and performance of the project team.

Indicate the steps they could take to deal with this situation. (6 × 1) (6)

5.2 Explain the need to communicate the project risks to the stakeholders. (3 × 2) (6)

5.3 Briefly describe FOUR monitoring and control processes that can be linked to a risk management plan. (4 × 1) (4)

5.4 State any FIVE possible risks for the Kusile Power Station project. (5 × 2) (10)

5.5 State TWO reasons why it is important for the project manager and his team to complete the close-out phase. (2 × 2) (4)

5.6 Compile a checklist that may be used to document lessons learnt in respect of the administration of the project. (5 × 1) (5)

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TOTAL SECTION B: 130
GRAND TOTAL: 150