basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

QUALITATIVE ANALYSIS OF LEARNER RESPONSES
AND
EVALUATION OF THE QUESTION PAPERS (PER PAPER)
NATIONAL SENIOR CERTIFICATE 2025
WESTERN CAPE EDUCATION DEPARTMENT

SUBJECT	**Marine Sciences**		
QUESTION PAPER	**1**	**2 X**	**3**
DURATION OF PAPER	**2,5 hours**		
INTERNAL MODERATOR	**DR M WHEELER**		
CHIEF MARKER	**MR M SCHROEDER**		
DATES OF MARKING	**FROM: 7 December 2025**	**TO: 11 December 2025**	
HEAD OF EXAMINATION	**MS LM BREDENKAMP**		

REPORT 2: QUALITATIVE ANALYSIS OF LEARNER RESPONSES

SECTION 1: ***(GENERAL OVERVIEW OF LEARNER PERFORMANCE IN THE QUESTION PAPER AS A WHOLE)***

Based on the RASC analysis of performance of all the 183 candidates who wrote, the average for the paper is 57,08% (National - 53,15%)
This is an increase of 4,45% from the 2024 national average of 48,7%.

SECTION 2: ***COMMENT ON CANDIDATES' PERFORMANCE IN INDIVIDUAL QUESTIONS***
(It is expected that a comment will be provided for each question)

QUESTION 1

(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?

Q1.1- Multiple choice questions
the multiple-choice questions were moderately answered with an average of 9,9 out of 20.

Q1.2- Terminology

the terminology questions were poorly to moderately answered with an average of 3,9 out of 10 with some learners leaving questions open.

Q1.3-Column A and B

Candidates answered the question poorly with an average mark of 3,6 out of 10.

(b) Why was the question answered poorly? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

Q1.1 Multiple choice questions

Most of the topics have a substantial amount of terminology to be studied by the candidates. Although the terms have all been summarized at the end of each topic in a Glossary, the candidates seemed not to study the terms extensively. Candidates struggled with the questions where they had to identify the correct sequence of statements or the statement that was incorrect.

Q1.2 Terminology

Many candidates did not seem to know the relevant terminology well. The table below provides a list of questions with the correct answers along with the incorrect terms frequently written by learners.

Question number	Correct Answer	Incorrect answer frequently written
1.2.2	Vertebral column	Spinal cord
1.2.4	Ecosystem services	Was poorly answered
1.2.5	(Diving) bradycardia	Spelt incorrectly and the answer did not contain the "cardia" element
1.2.6	Infratidal	Offshore/onshore
1.2.10	Operculum	Bony plate / Branchiostegal membrane

Q1.3 candidates seemed to struggle to distinguish between the different concepts in the Column A and B questions

(c) Provide suggestions for improvement in relation to Teaching and Learning.

More time should be spent in class on testing terminology. This can be done through informal class tests or class activities such as charade-like "Thirty Seconds" word games with peer learning. The use of online quiz platforms to reinforce terminology is encouraged.

(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.

Candidates must grasp entire concepts of scientific terms or phrases.

Glossary terms can be put at the bottom or side of the page of written material instead of at the end of the topic to ensure that learners study the terms as part of the content.

QUESTION 2

(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?

Q2.1 – Scientific investigation

Candidates generally performed very well in the data interpretation and relevant questions with an average of 11,8 out of 16.

Q2.2 Case study on the predation of Cape Bream eggs by the Common Brittlestar in kelp forests

Candidates performed poorly in this question that required interpreting the text and giving facts from the study content. On average candidates obtained an average of 6,2 out of 13.

Q2.3 African Black Oystercatcher and rocky shores

Candidates generally performed moderately in this question with an average of 3,1 out of 7. However, most candidates were unable to provide the correct rocky shore zone in which the African Black Oystercatcher is found when feeding on black mussels.

(b) Why was the question answered poorly? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

Question 2	
2.1.2	Some candidates got the scale of the graph incorrectly. Candidates either did not start the scale with a zero or they made the scale according to the numbers that they needed to plot. This resulted in candidates losing scale or plotting marks or both. Some candidates did not maintain the same width while drawing their bars
2.1.3	Most candidates answered this question as if it is penguin chicks that goes out in the ocean to forage whereas some did not answer the question of the effect of the increased depth on the chick penguins' survival, resulting in losing 1 mark
2. 1.4	Most candidates gave and explained only one adaptation instead of two. Some candidates only gave two adaptations and did not explain them
2.2.1	Most candidates got the 1 mark for protection from predators and did not explain how
2.2.2	Common answer to this question was 'symbiotic relationship' or 'parasitic relationship', while the answer was 'predation'
2.2.3	Candidates lost 3 marks because the question (a) 1 mark and (b) 2 marks were linked. Some candidates wrote external reproduction instead of external fertilization
2.2.4 (a)	Most candidates answered this question incorrectly. Candidates wrote the Brittlestars have noses that they use to smell the scent Candidates wrote detect scent with their sensors instead of detecting chemicals
2.2.4 (b)	Candidates wrote that the Brittlestars move with currents with a wave motion whereas others wrote that they move with the help of cirri/ papullae

2.3.1	Most candidates got the answer wrong. Common answers were 'infratidal'/'eulittoral'/ 'balanoid' (did not mention lower) or names of the coastal regions
2.3.2	Most candidates related this to predator population instead of prey population
2.3.3	Confused biotic with abiotic factors

(c) Provide suggestions for improvement in relation to Teaching and Learning.

Emphasis should be placed on data interpretation as well as the scientific method in both practical assessments and tests/exams.
Candidates should get more opportunities to write explain/discuss/describe type of questions.
More experience in interpreting texts and case studies is needed.

(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.

Teachers should motivate learners to read relevant media articles and watch documentaries relevant to content. Learners should broaden their horizons on the biology and ecology of the ocean.

QUESTION 3

(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?

Q3.1 infographic about the Knysna Estuary

Candidates generally performed very well in this infographic-style question on the Knysna Estuary that required them to read text, interpret data, interpret a map and draw a scientific diagram (Q3.1.4(b)). The average for this question was 9,4 out of 15.

Q3.2 The whiskers of a seal related to Biomimicry

In general, candidates struggle with the concepts and deeper guiding principles of Biomimicry. This question was poorly to moderately answered with an average of 5,9 out of 14.

Q3.3 Namaqua National Park Marine Protected Area

Candidates did well in this question based on a Marine Protected Area. The average for this question was 6,1 out of 10.

(b) Why was the question answered poorly? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

Question 3	
3.1.1	Most candidates received only 2 out of 3 marks. They either got impact and effect or effect and consequences

3.1.2	Most candidates received 2 out of 3 marks. The candidates either did not mention what SANPARKS can do or they did not mention the effect of the fact that they mentioned
3.1.3	Opinion was well answered
3.1.4 (a)	This question was poorly answered. Candidates did not mention the bait and just spoke about the yield.
3.1.4 (b)	Candidates answered the question poorly
3.2	There were candidates who did not attempt to answer the question
3.2.1	They did not know/write that the whiskers are in front (position)
3.2.2.	Answered how seal detect prey but not how the seal would react
3.2.3 (a)	Candidates did not mention how the rescuers would use the data from the sensors
3.2.3 (b and c)	Struggled with principles of biomimicry Candidates wrote the same answer for (b) and (c)
3.2.3 (d)	Well answered
3.3.1	Mentioned the stakeholder but did not give a reason for their involvement
3.3.2 and 3.3.3	Candidates gave the same/ similar answers for both questions
3.3.4	Some candidates wrote independent variable instead of mentioning the variable

(c) Provide suggestions for improvement in relation to Teaching and Learning.

Emphasis should be placed on data interpretation as well as the scientific method in both practical assessments and tests/exams.

Candidates should get more opportunities to write explain/discuss/describe type of questions.

More experience in interpreting texts and case studies is needed.

(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.

In Marine Sciences, it is important for candidates to be able to give and motivate their opinion, based on content studied. Teachers should along with the teaching of content allow for class discussions and debates to explore both sides of real-life matters such as conservation management and community involvement.

QUESTION 4

(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?

The majority of candidates nationally chose to write Q5, with 64 candidates who wrote Q4 and 116 who wrote Q5. Three candidates did not attempt to write an essay. Marks are awarded in an essay for content (25 marks) as well as synthesis (10 marks).

The highest mark obtained for Q4 was 34 out of 35, the lowest 9. The average mark was 21,5 out of 35.

(b) Why was the question answered poorly? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

SYNTHESIS

INTRODUCTION – Some candidates copied the question as their introduction

CONCLUSION – Used an OPINION question as a conclusion

BIOLUMINESCENCE - They did not mention how it is activated and how the Anglerfish produces its own light

SENSES – Generally answered well although there were considerable number of candidates who got it wrong

VENTILATION- For fish they did not mention the mechanisms of pumping water through the gills Candidates did not know the concept of ram ventilation and instead spoke about shark buoyancy or compared shark and bony fish' buoyancy

THERMOREGULATION – Generally answered this well and got many 'flex marks"

OPINION -Generally answered well

(c) Provide suggestions for improvement in relation to Teaching and Learning.

The writing of essays is a skill. Learners are required to write the content that they have studied in an applied scenario and to give motivation or evaluation.

Considering that the essay makes up 23,3% of the exam, time should be spent on practising essays.

(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.

Incorporate reading of scientific based articles in class with class discussions, class debates. Critical thinking is emphasised in Marine Sciences and candidates should be able to show understanding and application of content studied.

QUESTION 5

(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?

The majority of candidates nationally chose to write Q5, with 64 candidates who wrote Q4 and 116 who wrote Q5. Three candidates did not attempt to write an essay. Marks are awarded in an essay for content (25 marks) as well as synthesis (10 marks).

The highest mark obtained for Q4 was 34 out of 35, the lowest 4. The average mark was 19,4 out of 35.

(b) Why was the question answered poorly? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

SYNTHESIS

INTRODUCTION – Some candidates copied the question as their introduction

CONCLUSION – Used an OPINION question as a conclusion

SKELETAL STRUCTURE – Most candidates got at least one point, which was commonly Hagfish being flexible
Candidates did not mention the different types of fins and their functions

WEAKER BONES – Most candidates did not answer the question and those who attempted the question did not get it right

FEEDING – Candidates did not say Hagfish smell food over long distances just that it smells food

PRODUCTION OF SLIME – Generally candidates answered the question well

OPINION -Generally answered well

(c) Provide suggestions for improvement in relation to Teaching and Learning.

The writing of essays is a skill. Learners are required to write the content that they have studied in an applied scenario and to give personal motivation or evaluation.

Considering that the essay makes up 23,3% of the exam, time should be spent on practising essays.

(d) Describe any other specific observations relating to responses of learners and comments that are useful to teachers, subject advisors, teacher development etc.

Incorporate reading of scientific based articles in class with class discussions, class debates. Critical thinking is emphasised in Marine Sciences and candidates should be able to show understanding and application of content studied.