CHAPTER 6

GEOGRAPHY

The following report should be read in conjunction with the Geography question papers of the November 2021 NSC examinations.

6.1 PERFORMANCE TRENDS (2017–2021)

The number of candidates who wrote the Geography examination in 2021 increased by 71 026 compared to that of 2020 i.e. 24,7% increase of the cohort.

There was an increase in the number of candidates who passed at 30% (Level 2) from 216 467 in 2020 to 266 402 in 2021, and in the number of candidates who achieved at 40% (Level 3) from 132 955 to 155 060.

There was a marginal decline in the pass rate at 30% (Level 2) from 75,3% in 2020 to 74,3% in 2021, with a corresponding decrease at the 40% (Level 3) from 46,2% to 43,2%. This follows a general downward trend in pass rates over the past three years. Pass rates over the past five years at Levels 2 or 3 have varied within a narrow band of only four percentage points.

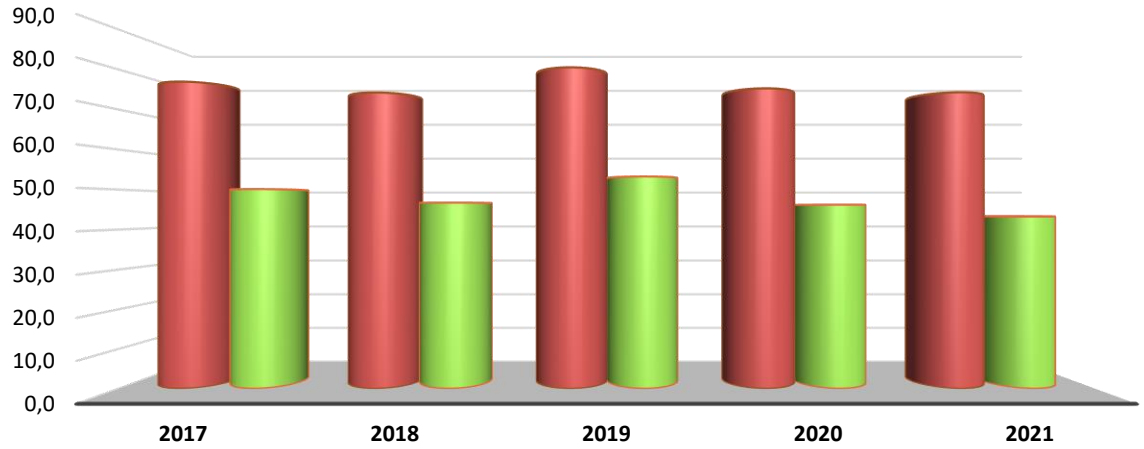
The percentage of distinctions (over 80%; Level 7) declined from 0,9% to 0,5%. The total number of distinctions decreased from 2 589 in 2020 to 1 793 in 2021.

The results reflected above were despite the challenging circumstances brought about by the Covid-19 pandemic over the past two years which affected teaching and learning activities of the 2021 cohort. This appears to have been the result of constructive intervention strategies by teachers and subject advisors as well as schools and provincial education departments. The resourcefulness and diligence of the above-average candidates also contributed to the overall performance in the subject.

Table 6.1.1 Overall achievement rates in Geography

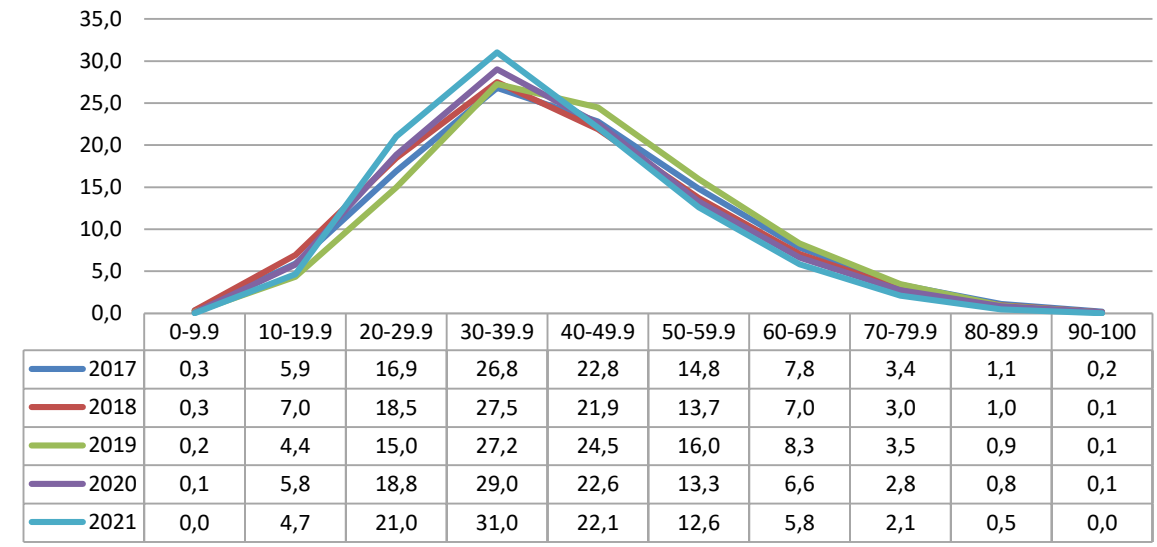
Year	No. wrote	No. achieved at 30% and above	% Achieved at 30% and above	No. achieved at 40% and above	% Achieved at 40% and above
2017	276 771	212 954	76,9	138 704	50,1
2018	269 621	200 116	74,2	126 011	46,7
2019	271 807	218 821	80,5	144 755	53,3
2020	287 629	216 467	75,3	132 955	46,2
2021	358 655	266 402	74,3	155 060	43,2

Graph 6.1.1 Overall achievement rates in Geography (percentage)



	2017	2018	2019	2020	2021
% achieved at 30% and above	76,9	74,2	80,5	75,3	74,3
% achieved at 40% and above	50,1	46,7	53,3	46,2	43,2

Graph 6.1.2 Performance distribution curves in Geography (percentage)



	0-9.9	10-19.9	20-29.9	30-39.9	40-49.9	50-59.9	60-69.9	70-79.9	80-89.9	90-100
2017	0,3	5,9	16,9	26,8	22,8	14,8	7,8	3,4	1,1	0,2
2018	0,3	7,0	18,5	27,5	21,9	13,7	7,0	3,0	1,0	0,1
2019	0,2	4,4	15,0	27,2	24,5	16,0	8,3	3,5	0,9	0,1
2020	0,1	5,8	18,8	29,0	22,6	13,3	6,6	2,8	0,8	0,1
2021	0,0	4,7	21,0	31,0	22,1	12,6	5,8	2,1	0,5	0,0

6.2 RESTRUCTURE OF GEOGRAPHY PAPER 1 AND PAPER 2

The 2021 NSC Geography examination marks the first year of the move to two 3-hour papers of 150 marks each. The two papers reflect two Geography disciplines with Geographical techniques and skills (Mapwork) being tested in both papers:

- **Paper 1**: Physical Geography (Climate and weather and Geomorphology) and Geographical skills and techniques
- **Paper 2**: Human Geography (Rural and Urban Settlement and Economic Geography of South Africa) and Geographical skills and techniques

The decision to move to two equally weighted papers seems to have been well received by the 2021 Geography cohort. This is due to two factors:

- **Reduction in time-management pressure**: The two papers combined provide 6 hours for the completion of a 300-mark examination as opposed to the previous norm of 4½ hours.
- **Distribution of content over two days**: The decision to write the two papers on different days enables candidates to focus their last-minute preparations for each day on only 50% of the curriculum.

General comments on performance of candidates

In general, the overall performance was satisfactory, given the circumstances confronting the cohort. Candidates appeared to have found Paper 1 more challenging than Paper 2.

The inclusion of the source material in the question paper and the use of smaller topographic and orthophoto maps was well received.

It was pleasing to note that candidates in many centres have attempted more questions in both Paper 1 and 2 than in the past. As each question is subdivided into several subquestions, candidates should have been able to score some of the allocated marks for attempting the lower-order cognitive response questions.

There was some improvement in candidates' achievement in the paragraph questions regarding the need to respond in full sentences. The advice and recommendations suggested in past Diagnostic Reports seem to have been implemented by teachers to an extent, but there is still room for further improvement.

In the shorter response questions, candidates displayed an improved understanding of geographical processes and were able to provide appropriate explanations, at least in part. Topics that reflected the most improvement were Rural and Urban Settlements and Economic Geography of South Africa. Candidates do, however, continue to struggle in both Paper 1 and Paper 2 with the questions on Geographical Skills and Techniques, Map calculations, and particularly GIS, where candidates either answered only a few subquestions or did not attempt the question at all.

6.3 OVERVIEW OF CANDIDATES' PERFORMANCE IN PAPER 1

General comments

Areas of concern that were raised in the 2020 Diagnostic Report remain pertinent in the context of the 2021 NSC examination paper. They are emphasised here once again.

(a) There were sufficient lower-order questions to give all candidates a fair chance to pass. Most of these were found in the short objective questions at the start of each question. Based on the 100 script analysis from all provinces, candidates achieved an average score of above 60% in these questions.

(b) Although there were many high quality responses to the question paper which indicate good understanding of geographical processes, many candidates continue to struggle to answer some of the questions even at the lower-order level.

(c) Many candidates were still not aligning their responses according to the demands of the action/command words in the question. Words such as 'suggest', 'identify', 'account for', 'describe', 'determine', 'differentiate' and 'explain', require different types of responses. Candidates often simply 'list' or 'name' an item when discussion is required.

(d) **Short objective questions**: Candidates generally performed well in these questions. A variety of short objective-type questions were used, e.g. multiple-choice questions on mid-latitude cyclones and river profiles; choosing the correct answer from the words in brackets for valley winds and completing the statements in Column A with the options provided in Column B on waterfalls. Candidates were not familiar with the format of the questions in Q2.2 where they had to select either response X or Y to complete the statement. Candidates had difficulty discerning when to provide evidence directly from the source as was required in Q1.3.2 (2 marks), or giving the names of two pressure systems as in Q1.5.1 (2 marks).

(e) **Data response-type questions** (2, 4 or 6 marks): These data response-type questions, where an explanation and more detailed reference were required, were often poorly answered. Candidates were, in many cases, unsure whether a one-word answer or longer phrase was required as the response. It appeared that many candidates did not know when to give reasons, descriptions, explanations or impacts when responding to these questions. They were also unable to demonstrate an understanding of command/action words like 'suggest', 'explain' and 'describe'.

(f) **Paragraph-style questions** (8 marks): These questions were of middle- to higher-order as is the norm. In Q1.5.4 candidates struggled to consider the impact of berg wind conditions on the physical (natural) environment and erroneously included impacts on people and farming. Q2.4.4, which required the candidate to explain the physical (natural) impact of flooding on the floodplain, was not well answered. Candidates did not make the connection between the fluvial processes of deposition associated with a river overflowing its banks. It is evident that candidates were not taught the necessary content and skills to interpret and answer these types of questions. Candidates often did not provide answers in full sentences as was required. Some candidates did not always heed the command words used in these questions to formulate the correct response in line with the question asked.

(g) Many candidates did not have a sound knowledge of the basic geographic concepts and therefore were not able to answer questions of a high cognitive demand. Some examples are those that require candidates to suggest strategies to reduce the negative impact of berg wind conditions on the physical (natural) environment (Q1.5.4; 8 marks) and to explain the impact of flooding on the floodplain (Q2.4.4; 8 marks); to account for the increase in wind speed of tropical cyclone Eloise (Q1.3.4; 4 marks); to explain why the ridging of the South Atlantic high results in onshore winds (Q1.4.4; 4 marks); to describe the weather conditions of Port Elizabeth as a result of the onshore winds (Q1.4.5; 6 marks) and to explain the impact of the change on the captor stream (Q2.5.6; 4 marks).

(h) There continues to be a lack of practise to master the application skills in the Geographical Skills and Techniques section of the question paper. Candidates did not make good use of the topographic map and orthophoto map to assist them in answering questions. It appeared that the General Information page was also not consulted. It was also evident that there was not a thorough integration of map skills and theory. These two aspects of Geography need to be taught in an integrated manner. Regular practice of calculations is important for candidates to be prepared correctly for NSC examinations. This question produced the poorest results at 43%.

(i) Candidates continue to struggle with Geographical Skills and Techniques, a topic which is now examined in both question papers. Calculations such as Area (Q3.1.4) and Magnetic Bearing (Q3.1.7) and the measurement for True Bearing (Q3.1.6) are typical examples. A number of candidates did not use the given information (length in Q3.1.4 and the magnetic declination in Q3.1.7) which resulted in their attaining

answers outside of the range prescribed. Practical application skills using both the topographic map and orthophoto map to identify features as in Q3.2.3 and Q3.2.4 were lacking. Many candidates did not understand the terminology and the application thereof to answer questions on Geographical Information Systems (GIS).

(j) Most of the major topics mentioned in the *CAPS* document were tested with the exception of Travelling Disturbances, Urban Climates and River Grading.

General suggestions for improvement

(a) Candidates continue to struggle with action words that demand a higher cognitive level. Questions containing these action words should always be answered in full sentences, showing a clear knowledge and understanding of geographical content. Specific action words that were deemed difficult in this examination were: 'describe', 'differentiate ' and 'explain'. The *Examination Guidelines* for Grades 10–12 include a comprehensive list of typical action words used in Geography and the response required to meet the intention of the action word. Teachers are encouraged to make this list available to their learners and to use the words in class daily to illustrate how questions can be asked using these action words. They must also make use of these action words in formal and informal tests and examinations. Marking of learners' responses should be in keeping with that stipulated in the *Examination Guidelines*. This will assist the learners to know whether they must respond in full sentences or provide only a word or phrase.

(b) Two- to four-mark questions require some interpretation technique and understanding of geographical processes. Learners, therefore, cannot merely reproduce content knowledge gained in the classroom. Responses should be extracted from the source material given as well as the learners*'* own theoretical knowledge.

(c) Regular practice of paragraph writing in short informal and formal tests, as well as in internal examinations, will allow learners to improve their skills and confidence when attempting these questions. These questions usually require a degree of critical and analytical thinking, which places them on a higher level of cognitive demand. Learners will have to answer two paragraph questions, one on an aspect of Climate and W0eather and the other related to Geomorphology. The required responses to these questions must be presented in full sentences, should be to the point and should focus on the intent of the question. The recommended eight lines should be used as a guide to the length of the paragraph. This is to avoid long-winded answers and wasting of valuable time.

When planning a response, learners should underline or highlight the main topic of the question, the action word and the focus areas of the question. Good practice when writing paragraph responses would be to make at least four points and then elaborate on each point. Poor punctuation and sentence structure make it difficult for markers to assess these questions effectively. Bullet points are not an acceptable method of answering a paragraph question and could result in the learner not being awarded any marks.

(d) Teachers must ensure that learners know all the geographical concepts and definitions required. Learners should compile a glossary of terms in their notebooks for easy reference. This will assist them when describing and defining these concepts and definitions and in extending their geographical vocabulary. These definitions are asked as the first question on a particular topic and carry 2 marks each (Q2.5.1). As these are seen as concepts, they do not have to be explained verbatim.

(e) When a geographical problem (issue) is studied, learners should focus on the causes and effects, both negative and positive impacts, as well as possible solutions or sustainable strategies to be implemented. The focus of questions in Paper 1, which examines Physical Geography, will be on the physical (natural), environmental impact on a particular phenomenon in Geography. Questions that are regularly asked include: Q1.3.5 (6 marks), Q1.5.4 (8 marks), Q2.4.4 (8 marks) and Q2.5.6 (4 marks). Environmental justice issues could also be assessed. As in-depth knowledge of such issues is essential, this might well involve informal research on the part of the teacher. There are many reliable Geographical websites to visit that will provide up-to-date and valid information. Teachers are encouraged to highlight current local geographical events that are documented in the news and integrate this into classroom discussions. Q1.3 on Tropical Cyclone Eloise is a case in point.

(f) Geography is a dynamic subject and new information on numerous topics is updated regularly. Teachers are therefore encouraged to collect resources on an ongoing basis and to be aware of current events that should be taught in Grade 12. These should then be incorporated into lessons to ensure that lessons are topical and relevant to learners. As life-long learners, teachers must set the right example by staying abreast of new developments in their subject.

(g) Teachers are encouraged to include source-based questions in class assignments, tests and examinations. They should make use of relevant and recent reliable resources from the internet and avoid using sources that appear only in textbooks and are familiar to learners. Teachers should expose learners to a variety of sources e.g. diagrams, sketches, photographs, infographics and graphical data (line graphs, bar graphs and pie charts). Learners should be taught how to draw on and interpret information from these different sources. Teachers and learners must be aware that different sources may also be combined for examination purposes. Sources should be included in the question paper as was the case in the 2021 NSC examination.

(h) An infographic is a source that was used as a stimulus in both Q1.3 and Q1.5. It is a visual representation of information or data, e.g. as a chart or diagram, and contains both written information, tables, graphs and a sketch or map. All the information given should be considered when answering questions. The skill of integrating the visual and written information is one that should be practised regularly. Learners could be asked to quote or state directly from the text in the infographic which then needs to be verbatim and not paraphrased as in Q1.3.2. If learners are asked to provide evidence from the infographic, they are not expected to quote directly (Q1.3.1) as they can make use of either the text, map or table in their responses.

(i) Teachers should become proficient in adapting diagrams and combining resources to suit the questions they have set. The Paint App can be used to erase labels, add in extra content and combine more than one diagram to meet the needs of the questions set. PowerPoint is another tool that can be used to redraw diagrams and adapt them as required. This is the format that was used by the examining panel for the 2021 NSC examination. The internet has a plethora of Google images which teachers can download on specific topics in addition to the considerable printed media items available. Teachers should check the validity and accuracy of material from the internet as it is not guaranteed to be correct. Reliable geographical sources should be used where possible and these should be properly contextualised.

(j) Teachers should be fully aware of the relevant subject content to be taught by constantly referring to the *CAPS* document and the *Examination Guidelines*. For 2022 an updated *Examination Guidelines* will be in place. Details regarding the choice of

agricultural product, mineral, core industrial areas, spatial development initiatives (SDIs) and industrial development zones (IDZs) to be studied are included.

(k) As most prescribed textbooks do not cover all the subject content mentioned in the *CAPS* and the *Examination Guidelines* to the same degree, teachers should do additional research themselves. Teachers should consult more than one textbook if possible. Information provided in the various textbooks might not always be geographically sound and, when in doubt, additional research should be done on the topic.

(l) Teachers should provide each learner with a copy of the new *Examination Guidelines*, highlighting the content that will be taught. This can be used as a checklist to ensure that all content is covered, and to assist in preparing for tests and examinations. The format of each examination paper is also clearly spelt out.

(m) To improve learner performance, teachers must refer to previous examination papers as a guide to ensure that the standard of questions and the variety of questioning technique used in assessment at school level is appropriate. This would also assist teachers to show learners how scaffolding of questions occurs, from those testing lower-order cognitive skills, to the higher-order questions which address more advanced thinking skills. Previous question papers should not, however, be used as a tool for predicting future papers.

(n) Teachers must ensure that the distribution of marks in the internal assessment tasks is also according to the requirements in the *CAPS* document. Blooms' Taxonomy or a similar tool should always be supplied for formal tests, examinations and tasks. The weighting is 25% lower-order, 50% middle-order and 25% higher-order. If too many lower-order questions are asked in the internal assessment conducted at school, learners will not be exposed to questions addressing a higher cognitive demand as asked in the final NSC examination. This will give learners false notions of the level of performance required.

(o) Learners should always provide units of measurement or compass direction when giving answers about temperature i.e. °C, wind speed (knots), atmospheric pressure (hPa/mb) and direction of movement (e.g. eastwards). Q1.5.2 (1 mark) required candidates to determine the highest temperature recorded on 13 March 2021. In mapwork the final answer in all calculations requires a unit of measurement in order to be credited with a mark (Q3.1.4, Q3.1.6 and Q.3.1.7).

(p) With regard to improving mapwork results, teachers need to integrate mapwork skills and applied theory into their daily teaching. Learners need to practise their calculations regularly using the correct format and steps as given in the *Examination Guidelines.* Teachers must mark the calculations according to the stipulations in the *Examination Guidelines*. At every opportunity teachers must show learners how the theory being taught can be tested in the mapwork section of the examination paper.

(q) Teachers must note that the short 15-mark questions at the beginning of each of the four questions are not necessarily going to test lower-order thinking skills and straight-forward recall only. Some questions might involve a higher level of cognitive ability. Learners must read the instructions carefully before answering the objective questions. In the multiple choice (Q1.1 and Q2.1) or complete the statement in Column A with statement X or Y (Q2.2) questions, only the relevant letter next to the question number is required. Candidates who write down the words or terms might be penalised for not obeying the instructions.

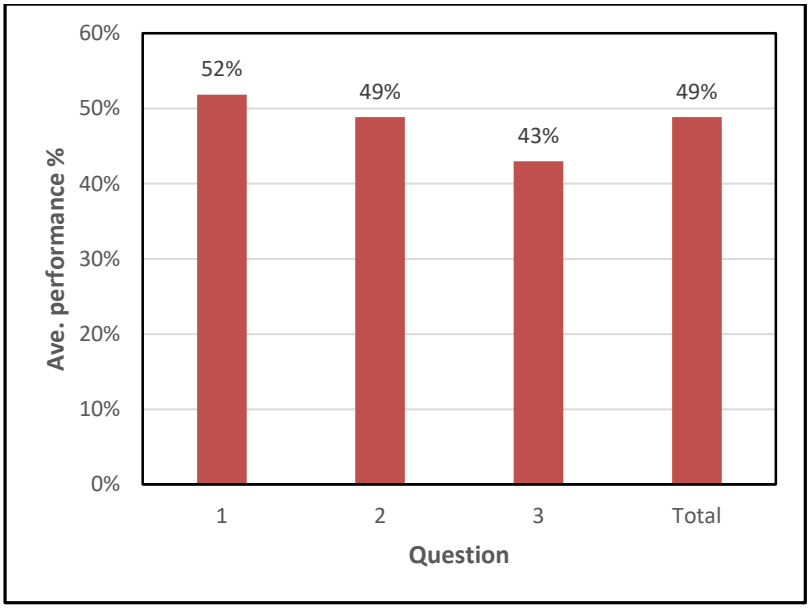
(r) In addition to making use of previous examination papers and SABC revision programmes to explain and revise important geographical concepts, other useful tools include *YouTube* live feeds, Xtremepapers.com, *Mind the Gap*, *Telematics* and *Teletutor*. *Teletutor* has embedded QR codes which when clicked on leads the learner to a short explanatory video of a section of Geography. Exemplar papers showing the new Geography paper format with the annexure included in the question paper will be available early in the year.

(s) Teachers are encouraged to refer to the new instructions and information page in the 2021 NSC examination paper and to include this in their formal tests and examinations. This will prepare the learners for the final examination. There are general instructions for Section A and specific instructions for Section B (Geographical skills and techniques) that should be highlighted. The annexure should also be incorporated into examination papers as was the case in the final 2021 NSC question paper. Teachers are also encouraged to implement the new format of testing the short objective questions using a number of related sources instead of just one source as in Q1.1.

6.4 DIAGNOSTIC QUESTION ANALYSIS FOR PAPER 1

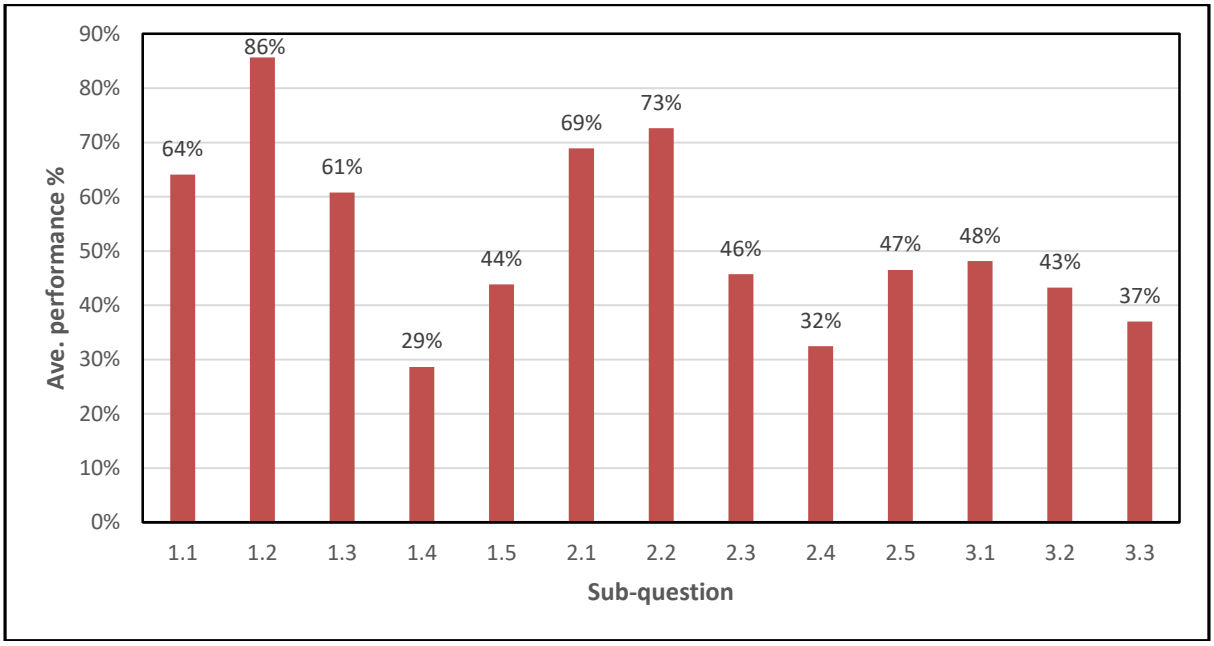
The following graph is based on data from a random sample of 100 candidates per province. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates.

Graph 6.4.1 Average performance per question in Paper 1



Q	Topics
1	Climate and Weather
2	Geomorphology
3	Geographical Skills and Techniques

Graph 6.4.2 Average performance per subquestion in Paper 1



Sub-Q	Topics	Sub-Q	Topics
1.1	Mid-latitude cyclones	2.3	Drainage patterns
1.2	Valley climates	2.4	Floodplain
1.3	Tropical cyclones	2.5	River capture
1.4	Synoptic weather map	3.1	Map skills and calculations
1.5	SA berg winds	3.2	Map Interpretation
2.1	Long and cross profiles of a river	3.3	Geographical Information Systems
2.2	Fluvial features-Waterfalls		

6.5 ANALYSIS OF CANDIDATES' PERFORMANCE IN EACH QUESTION IN PAPER 1

SECTION A

QUESTION 1: CLIMATE AND WEATHER

Common errors and misconceptions

(a) Many candidates struggled to select the correct answer in the multiple-choice questions (Q1.1; 8 marks). Instead of one source, the question used separate sources for Q1.1.4, Q1.1.5, Q1.1.7 and Q1.1.8. These were 1 mark each.

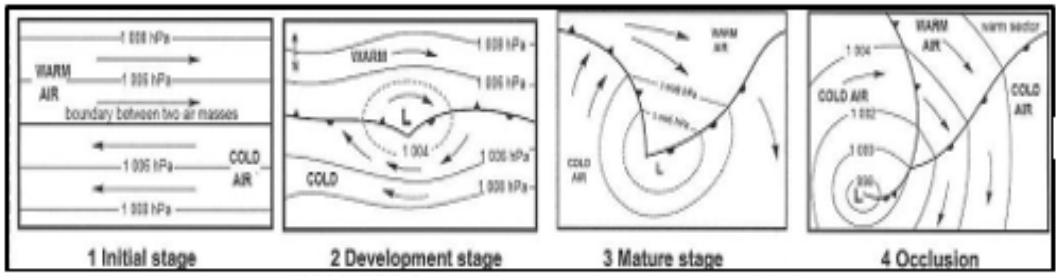
(b) Although Q1.2 was well answered, there is a need to clarify the difference between the concepts of inversion layer and thermal belt which resulted in both options being accepted.

(c) Many candidates struggled to identify the low-pressure cell located over the interior as well as the concept of ridging and the resultant winds. In Q1.4.5 (6 marks) where the question asked candidates to describe the weather conditions at Port Elizabeth as a result of the onshore winds, candidates erroneously interpreted the weather conditions on the station model without linking their answer to the onshore winds.

(d) In Q1.5 (15 marks) candidates did not make full use of the information in the infographic. The short text, synoptic weather map and graph needed to be utilised to answer the questions set. Q1.5.1 (2 marks) required candidates to name two pressure cells but most just identified them as either a high or a low pressure instead. Many candidates struggled to come up with two facts with regard to the role of the escarpment in increasing the temperature of the berg wind. The paragraph question Q1.5.4 (8 marks) on the impact of berg wind conditions on the physical (natural) environment was not well answered. Candidates were awarded marks only for explaining the impact of berg wind conditions on the physical (natural) environment. Most candidates did mention veld fires but needed to link it to the destruction of natural vegetation or loss of habitat and biodiversity to be credited. No marks were awarded for mentioning the impact on people, cattle or crops as these are not deemed part of the physical (natural) environment.

Suggestions for improvement

(a) It is not often that the topic of mid-latitude cyclones is tested in the short objective questions. In this examination, candidates needed to know specific information with regard to where these systems develop, how they move, identification of a particular front as in Q1.1.4 and determining the stage of development in Q1.1 and the station model associated with a cold front. Q1.1.7 and Q1.1.8 consisted of four diagrams from which the candidate had to select the occlusion. This was a more practical method of testing the mid-latitude cyclone than usual. Teachers need to cover the four stages of development diagrams when teaching this section as well as to integrate the content with weather station models ahead, at the passage and behind a mid-latitude cyclone on a synoptic weather map.



[source:https://docplayer.net/96884795-Grade-12-geography-p-1-study-guide-for-progressed-learners-page-1-of-91.html]

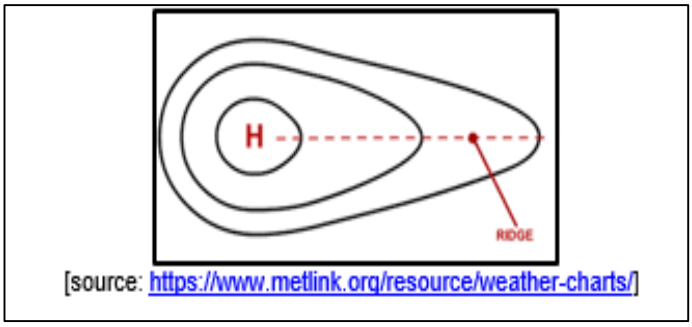
Teachers should use up-to-date synoptic weather maps as a teaching tool to show learners how each stage of a mid-latitude cyclone is represented. A good site is https://www.weathersa.co.za/home/historicalsynoptic.

(b) In Q2.1.6 two options given in the multiple-choice question were very similar. Teachers should ensure, when teaching specific terminology, that they use the terminology correctly and do not interchange terms as in this example: *an inversion is a layer of air in which the temperature increases with an increase in height. Where the inversion layer makes contact with the mountain slopes there is a relatively warm area which is known as the thermal belt*.

(c) Q1.4.1 (1 mark) and Q1.4.2 (2 marks) required candidates to identify the low-pressure system labelled A which was found over the interior of South Africa and to provide a reason for its formation. This is known as a thermal low- (heat low) pressure system and is located over the interior of South Africa during summer when more direct heating takes place. This content is covered in Grade 10 when a distinction is made between summer and winter synoptic weather maps by identifying

the changing position of pressure systems associated with South Africa. In Grade 12 the occurrence of a low-pressure system over the interior in summer is discussed when it forms a trough of low pressure which is associated with line thunderstorms. In Q1.4.3 (2 marks) learners had to understand the concept of ridging. A ridge is an elongated area of relatively high pressure extending from the centre of a high-pressure region on a synoptic weather map.

(d) To obtain full marks in Q1.4.4 (4 marks), the candidate needed to explain how air diverges in an anticlockwise manner from the South Atlantic high pressure over the ocean towards the thermal low pressure over the land. Due to the high pressure cell ridging towards the coast onshore winds develop. The 6-mark short response question Q1.4.5 was pitched as a middle-order difficult question where the station model for Port Elizabeth had to be used to describe the weather conditions for Port Elizabeth as a result of the onshore winds. Learners are encouraged to read the full question to understand what is being asked and not just read the first few words, which is what most candidates did, and merely stated the weather conditions of the station model.



[source: https://www.metlink.org/resource/weather-charts/]

(e) In Q1.5.1 (2 marks) candidates had to name the two pressure systems associated with berg wind formation. Learners must take note of the action word. In this case they had to actually name the two pressure systems which are the *Kalahari* high pressure and the *Coastal* low pressure and not just state a high and a low pressure. Teachers need to highlight this when covering this section. Q1.5.3 (4 marks) required a good understanding of how a berg wind forms and that elevation of the escarpment was the key factor. Learners needed to identify that the escarpment is an elevated area down which the air mass moves from the Kalahari high pressure to the coastal low pressure over the ocean. As the air moves down the escarpment it warms up due to compression at the dry adiabatic lapse rate of 1 °C per 100 m. The average height of the escarpment in South Africa is above 1 000 m. The movement of the wind from above 1 000 m on the plateau, down the escarpment to 0 m along the coast, is what causes the large increase in temperature.

(f) The paragraph question (Q1.5.4) required candidates to adapt their knowledge of the impact of berg winds to only giving responses pertaining to the physical environment. The skill is in discerning which facts pertain to the question that was set. Teachers need to cover both positive and negative factors when discussing the impact of berg winds in class. Two positive impacts of berg winds are that ash from veld fires can increase soil fertility, and veld fires do promote seed germination.

QUESTION 2: GEOMORPHOLOGY

Common errors and misconceptions

(a) Candidates did not understand the basic concepts and did not do well in Q2.3 (15 marks) which was based on drainage patterns and drainage density, despite this being an often tested topic. In Q2.3.2 (4 marks) many candidates confused the concept of underlying rock structure with underlying rock and merely gave examples of the type of rock. Q2.3.3 (2 marks) required interpretation of how the folded underlying rock created ridges (hard rock) and valleys (soft rock). The short

tributaries flow down the steep ridge and feed into the main stream at right angles. In Q2.3.6 (a) and (b) (4 marks) learners needed to describe how (a) low rainfall and (b) steep gradient influenced drainage density. Low rainfall decreases drainage density while a steep gradient will increase drainage density. This resulted in an average performance of only 46% in this question.

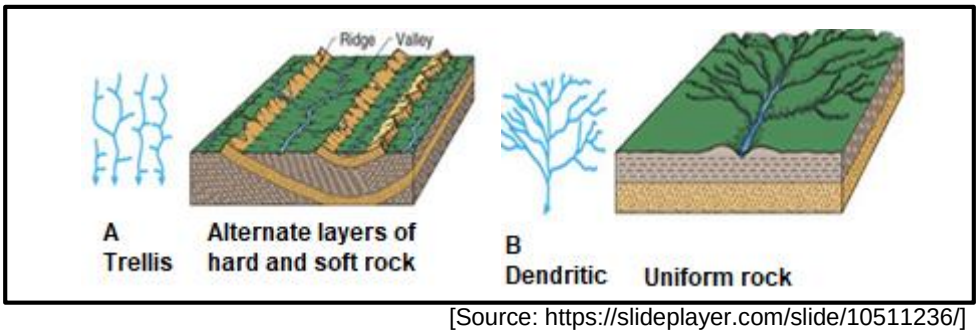
(b) Q2.4 (15 marks) recorded the lowest average performance in the Geomorphology section at 32%. Many candidates struggled to use the source material to guide them through the questions. The concept of a floodplain is not foreign to the candidates yet they struggled to apply their knowledge adequately in Q 2.4. In Q2.4.1 (1 mark) most candidates could not give deposition as the process that resulted in flood plains forming. Q2.4.3 (4 marks) required the candidate to explain how this deposition took place to widen the floodplain and that this occurred regularly due to constant overflowing of the river. The paragraph question (Q2.4.4; 8 marks) was set as a higher-order question which required an explanation of the physical impacts of flooding on the floodplain. Here candidates needed to refer to the impact on habitats, change in biodiversity, formation of levees, increased water table, formation of wetlands and level of infiltration.

(c) With regard to Q2.5.3 (4 marks), candidates could not use the original diagram before river capture and redraw it to show the process of river capture having occurred. This was a slightly different way of asking the question than in previous years. Identification and labelling of prescribed features on the diagram was not well done. Many candidates drew diagrams that were not based on the original diagram.

(d) Q2.5.6 (4 marks) was set as a middle- to higher-order question which required candidates to explain the impact of the increased volume of water (answer from Q2.5.5) on the captor stream. This is closely linked to the concept of rejuvenation. Candidates needed to link the increased volume of water to renewed vertical erosion, the formation of terraces, valleys within valleys, entrenched meanders and the possibility of increased flooding. Many candidates could not identify the captor stream correctly and aligned their answers instead to the misfit stream.

Suggestions for improvement

(a) Q2.3.2 refers to differentiating between the underlying rock structure which resulted in drainage basins A and B developing. This required the candidates to make the link between the drainage pattern given and the underlying rock which resulted in this pattern developing. Drainage pattern A is associated with folded rock which exposes alternative layers of hard and soft rock, and B is rock that is uniformly resistant to erosion.



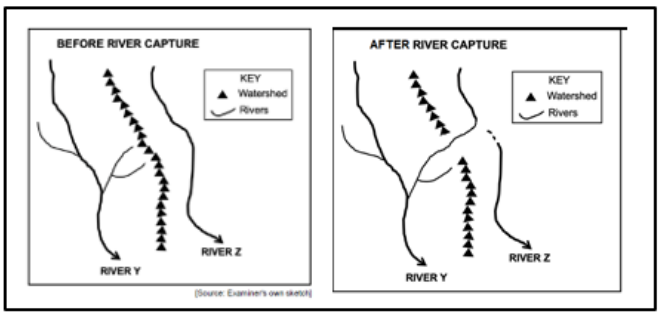
[Source: https://slideplayer.com/slide/10511236/]

Teachers are encouraged to use diagrams like those shown above when teaching drainage patterns. Learners must be able to link the resultant drainage pattern to the underlying rock structure that allowed it to develop.

(b) With regard to the topic on floodplains tested in Q2.4, teachers need to make the link between the flood plain and how it forms as a result of flooding. The flood plain is a fluvial depositional feature (landform) that develops in the lower course of some rivers due to the river overflowing its banks, regularly depositing alluvium. As this process continues, so a floodplain will increase in size over time. A floodplain is a habitat for plants and animals, the deposited alluvium improves soil fertility and it is a storage place for excess water. While there are many impacts on the floodplain this particular paragraph question (Q2.4.4; 8 marks) required candidates to refer only to the physical impact of flooding on the floodplain. Teachers should explain the difference between physical and human impacts when covering this section.

(c) Teachers must practise the skill of redrawing diagrams with their learners in class consolidation exercises and informal tests. This will prepare the learners when having to answer a question like Q2.5.3. Teaching with the use of visual aids will definitely assist learners to conceptualise the process.

It is suggested that teachers use a variety of examples of river capture from past papers and the internet to help learners become more confident with regards to identifying features of river capture and determining which river is the captor and captive.



SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

Common errors and misconceptions

(a) Calculations and Map Skills continue to be a challenge for many candidates. In the area calculation in Q 3.1.4 (4 marks) some candidates measured the length of feature 6 despite it having being given and then gave the final answer in km² instead of m². This resulted in low marks being attained. Q3.1.5 (1 mark) on map scale and Q3.1.6/Q3.1.7 (2 marks) which required using a given magnetic declination, were particularly poorly answered. Candidates still struggled to measure accurately with a protractor.

(b) In Q3.2 on map interpretation candidates did not use either the topographic map or the orthophoto map. Many candidates also could not integrate their Physical Geography knowledge to answer the questions asked in the mapwork section. The following questions were problematic: Q3.2.1 (a) (1 mark) on the season in which the lowest rainfall is recorded on the graph, candidates answered by giving the month of June instead of the season, winter, as was required. To answer Q3.2.1 (c) (2 marks), candidates needed to use the reference key on the topographic map in conjunction with block A2 to identify one strategy to overcome water shortages. Two skills were required which was challenging for some candidates. Q3.2.2 (2 marks) required candidates to provide evidence for a particular wind direction and Q3.2.5 (1 mark) required the identification of a fluvial landform by comparing the plan view of the feature with the cross-sectional profile proved challenging for many candidates. Many candidates did not use reference information on the topographic map to full potential.

(c) Most candidates struggled to answer Q3.3 (8 marks) on Geographical Information Systems. Q 3.3.2 (1 mark) and Q3.3.3 (2 marks) on buffering; and Q3.3.4 (2 marks) and Q3.3.5 (2 marks) on data layers proved to be beyond the scope of candidates.

Suggestions for improvement

(a) At the beginning of Section B in the examination paper (page 16), there is general information of the mapped area being tested. Learners are encouraged to read through this carefully as it provides context for the questions set. The small map of South Africa shows exactly where the mapped area (e.g. Phalaborwa) is located and the province is mentioned in the text. Some of the questions are set from the general information. There are also English terms and their Afrikaans translations provided as some topographic maps might use a combination of Afrikaans or English terms.

(b) Q3.1.4 (4 marks) was a calculation to determine the area of feature 6 on the orthophoto map. In the *Examination Guidelines*, this calculation carries 5 marks. Due to the limited number of marks available in this section, the measurement of length was given, hence the calculation earned only 4 marks. It must be noted that there is no range if the measurement is given. Formulae are provided in the question paper to assist the learner. The skill is in substituting the correct values, measuring accurately and using the correct scale of the map for the conversion. Marks are awarded for each step of the calculation and a final mark is given for the correct answer with the correct unit of measurement which in this case was m^2. For the correct calculation and mark allocation refer to the NSC Geography Paper 1 marking guidelines, Q3.1.4

Q3.1.5 (1 mark) required candidates to show an understanding of the fact that the orthophoto map scale is 5 times larger than that of the topographic map, which means that the same feature on the orthophoto map will be 5 times larger than on the topographic map. Candidates could not just quote the two scales in this case.

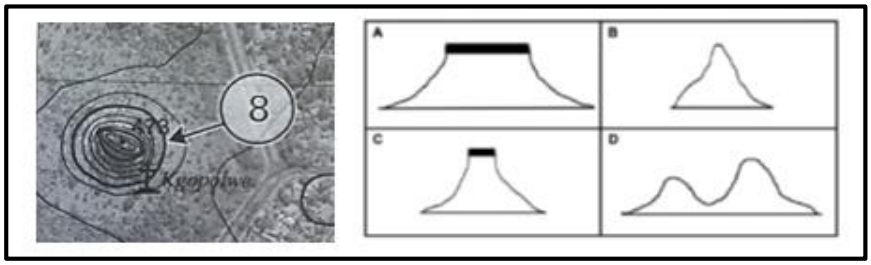
If the measurement of the true bearing in Q3.1.7 (1 mark) was incorrect then the answer would also be (1 mark). Learners must practise measuring accurately with a protractor and may be only 1 degree, out on either side of the given answer. The given answer was 190° (range 189°–191°). Teachers should mark mapwork tasks in this manner to improve accuracy. This section on mapwork should be used by teachers to show learners how questions can be asked in the NSC examination. When a value is given, as in Q3.1.4 (4 marks) and Q3.1.7 (1 mark), they must use the information given.

(c) Teachers must set tasks using the appropriate symbols to train learners to use them in conjunction with the maps provided. In Q3.2.1 (b) (1 mark) the candidate needed to link seasonal rainfall to a non-perennial river, which is normally clearly indicated on the extract of the topographic map provided as a blue dashed line.

(d) Q 3.2.1 (c) (1 mark) referred to the perennial water (dams) and reservoirs in block A2 on the topographic map of Phalaborwa. Learners need to use the reference symbols to identify these features.

One way to determine the prevailing wind direction is by using the orientation of a runway or landing strip found on the topographic map or orthophoto map as in Q3.2.2 (2 marks). Landing strips are almost always orientated in the direction of prevailing wind. In situations where there is more than one prevailing wind, a number of landing strips or runways may be found crossing over each other. Aeroplanes take off into the wind for uplift and land into the wind in order to slow down. This source provides illustration of this concept: https://www.youtube.com/watch?v=DtRViCEId_U

(e) The skill of using a plan view of a feature as in Q3.2.5 (1 mark) and matching it with the correct cross-profile is one that needs to be practised in mapwork tasks. Learners must be able to identify landforms on a topographic map and correctly match them with the relevant cross-profile. Teachers should revise the main characteristics used to differentiate each feature. Option B was the correct answer as a spot height is indicated on the profile meaning that the feature does not have a flat top. Even though these landforms are covered in the Grade 11 curriculum, they can be examined in the mapwork section of the NSC as is clearly stated in the *Examination Guidelines*.



(f) Geographical Information Systems (GIS) is a topic that is still not taught in a practical and applied manner. This is evident in the responses in this examination. Teachers must integrate the GIS concepts with the practical application using both topographic and orthophoto maps. In Q3.3.2 (1 mark) and Q3.3.3 (2 marks) the concept of buffering was tested. Learners need to be taught how to provide map evidence to show that buffering has taken place. A buffer zone is an area where in this case no building or development has been allowed to take place in order to protect the natural environment and the non-perennial rivers. No physical fence or wall is built but rather a natural demarcation is implied.

(g) Data layers which were tested in Q3.3.4 (2 marks) and Q3.3.5 (2 marks) continue to be a challenge. Teachers should educate learners about the different data layers and their significance using visual illustrations and GIS programmes. In Q3.3.4 and Q3.3.5 data layers were related to development of a landing strip. Candidates were asked to identify examples of data layers to be considered before developing a landing strip (e.g. roads), and in the follow-up question how these data layers were utilised (e.g. determining accessibility). Teachers should demonstrate the identifying and utilisation of data layers using other scenarios, e.g. location of a cemetery. In this case learners could look at contour lines where a gentle gradient is considered. Visual examples of different data layers and how they can be integrated should be used. Refer to the following source for images of data layers: https://www.sustainableplaceshaping.net.

6.6 OVERVIEW OF CANDIDATES' PERFORMANCE IN PAPER 2

Although the content distribution and structure of the papers changed in 2021, various areas of concern that were raised in the *2020 Diagnostic Report* remain pertinent in the context of the 2021 NSC paper. They are emphasised here once again.

(a) The nature of the paper allowed for a sufficient number of questions with a good level of predictability and a low level of difficulty to give all candidates a fair chance to pass. A significant number of these were found in the short objective subquestions at the start of each question. Many such subquestions at the start of each question required candidates to obtain answers from the source provided, e.g. an infographic.

(b) Regarding map application, a significant number of candidates gave general answers whereas the questions required specific answers with evidence from the general information, topographic maps and orthophoto maps (Q3.2.6; 2 marks and Q3.3.4; 2 marks).

(c) The requirements associated with certain action words were not clearly understood, and many candidates did not know how to approach these questions or understand what was expected of them, e.g. differentiating between 'explain' and 'explain why'. This resulted in candidates losing many marks in the middle- to higher-order questions. It must be noted that 75% of the marks covered these questions.

(d) Candidates generally performed well in the short objective questions. A variety of short objective-type questions were used, e.g. multiple-choice questions on settlement terminology and economic concepts; select a term on hierarchy of settlements; matching photographs with a description for small and large scale farming. However, it is concerning to note that some candidates experienced difficulty in answering questions that required correct quotations, or in identifying information on the sources provided e.g. Q1.5.1 (1 marks), Q1.5.2 (2 marks), 2.3.1 (1 mark), Q2.3.4 (4 marks), Q2.5.2 (1 mark) and Q2.5.3 (4 marks). Many of these questions tested simple comprehension skills.

(e) Regarding the paragraph questions, the performance was disappointing, with Q1.3.4 and Q2.5.4 being particularly poor. These data response-type questions, which required a discussion and linking of factors with a more detailed reference, were not well answered. Candidates were, in many cases, unsure whether factors should be explained separately or linked and whether a one-word answer or longer phrase was required as the response. It appeared that many candidates did not know when to give causes, effects, impacts and solutions when responding to these questions. They were also unable to demonstrate an understanding of command/action words like 'suggest', 'explain' and 'describe'. The action word, 'why' was used numerous times in the question paper and candidates struggled to provide answers to such questions.

(f) A significant number of candidates did not have a sound knowledge of the basic geographic concepts and therefore were not be able to explain/define these concepts and answer questions of a high cognitive demand linked to these concepts, e.g. the difference between Rural-urban Migration (Q1.3; 15 marks), Core Industrial Regions and Spatial Development Initiatives (Q2.4; 11 marks), Informal Sector (Q2.5; 15 marks), Intervisibility (Q3.1.4; 1 mark), Remote Sensing (Q3.3.3; 2 marks) and Attribute (Q3.3.4; 2 marks).

(g) Most of the major topics in Section A and all sections regarding Geographical Skills and Techniques mentioned in the *CAPS* document were tested. This advantaged the

candidates who studied their work comprehensively. The combining of the Core Industrial Region and SDI allowed for more topics to be tested. This style of questioning could be tested in future papers.

(h) A thorough analysis of both topographic maps and orthophoto maps was not done by many candidates. Candidates did use all the information provided on the topographic map, like the reference information and distances to routes outside the mapped area. Information found on the side of the mapped area was essential to answer Q3.1.1 (1 mark).

(i) Candidates lost marks for not indicating all the correct steps in calculations, e.g. in Q3.1.6 (2 marks).

(j) Candidates experienced challenges integrating their theory knowledge with the Geographical skills and techniques.

General suggestions for improvement

(a) Selective reading seems to be a perennial problem and many learners do not grasp the requirements of the question. Highlighting the action words and important aspects of the question will definitely assist learners in interpreting the question correctly.

(b) Learners continue to struggle with action words that demand a higher cognitive level. Questions containing these action words should always be answered in full sentences, showing a clear knowledge and understanding of geographical content. Specific action words that were deemed difficult in this examination were: 'explain how' and 'explain why'. These questions require answers that are qualified. Included in the 2021 *Examination Guidelines* is a comprehensive list of typical action words used in Geography and the response required to meet the intention of the action word. Teachers are encouraged to make this list available to their learners and to use the words in class daily to illustrate how questions can be asked using these action words.

(c) Proper understanding of all concepts, differentiating between concepts and application of concepts are of utmost importance. The structure and scaffolding of questions require the learner to understand the concepts as they relate to the concept being assessed. Learners should not only be given a list of concepts but it should be fully explained to them. Baseline assessments and other informal tasks which mirror the questions of the NSC Examination should be practised regularly focusing on concepts taught. This should be done after every sub-section taught.

(d) Besides paragraph questions, learners need to note that 2-, 4- and 6 mark questions also require some interpretation technique and understanding of geographic processes. Learners therefore, cannot merely reproduce knowledge gained in the classroom. Responses should be extracted from the source material given as well as the learners' own theoretical knowledge.

(e) Paragraph writing skills are essential. These questions usually require a degree of critical and analytical thinking, which places them on a higher level of cognitive demand. Learners need to be made aware of the following: write in a paragraph format and in full sentences; four points (if required) must be explained; answers in most instances require qualification; check if a question is double-barrelled, e.g. Q1.3.4 (8 marks) where two factors need to be linked in order to be credited; note the specific emphasis of the question, e.g. social and economic impact.

(f) When a geographical problem is studied, learners should focus on the causes and effects, both negative and positive impacts, as well as possible solutions or sustainable strategies to be implemented, e.g. negative impact: Q1.3.3 (4 marks) and negative economic impact: Q2.3.5 (6 marks). In-depth knowledge of such issues is essential. This might well involve informal research by teachers. There are many reliable geographical websites that will provide up-to-date and valid information.

(g) Some rotational topics like Spatial Development Initiatives and Industrial Development Zones are either briefly mentioned or are not found in textbooks. Teachers and subject advisors need to conduct additional research into these topics to share with teachers. The *Examination Guidelines* have divided these topics into sub-sections and it is essential that teachers provide sources based on these subsections to support learners.

(h) Geography is a dynamic subject and new information on numerous topics is updated regularly. The urban and economic environment is constantly changing. Teachers are therefore encouraged to collect resources on an ongoing basis and to be aware of current events that should be taught in Grade 12. These should then be incorporated into lessons to ensure that they are topical and relevant to learners. As life-long learners, teachers must set the right example by staying abreast of new developments in their subject.

(i) Source-based questions that are compliant with the NSC Examinations should be incorporated in classroom activities, informal tests and examinations. Teachers should use relevant and recent resources from the internet and avoid using sources that appear only in textbooks and are familiar to learners. Teachers should focus on the interpretation of diagrams, sketches, photographs, cartoons and graphical data (line graphs, bar graphs and pie charts). Learners should be taught how to draw on information from these different sources. Teachers and learners must be aware that different sources may also be combined for examination purposes. As the interpretation of cartoons remains a challenge for learners, the more practice they get, the more confident they will feel about answering a question based on a cartoon.

(j) An infographic was used as a stimulus in this examination (Q1.5, Q2.3, Q2.4 and Q2.5; 15 marks each). It is a visual representation of information or data, e.g. as a chart or diagram, and contains written information and a sketch or map. Texts used particularly in Section A (Q1 and Q2) contain valuable information to guide learners to appropriate answers. Learners could be asked to quote directly from the text which then needs to be verbatim and not paraphrased. If learners are asked to provide evidence from the text, they are not expected to quote directly.

(k) Learners need to orientate the topographic map to the orthophoto map before answering Section B on Geographical skills and techniques. They can look for an easily identifiable feature on both maps while roads, railway lines, larger features and the shape of built-up areas are some of the other ways to do map orientation. By using the area indicated by a red and black block on the topographic map, a learner can determine the location of the orthophoto map on the topographic map.

(l) Learners need to understand the importance of integrating their theory knowledge with Geographical Skills and Techniques. Although most of this integration is in Q3.2 (12 marks), it must be noted that it can be found in other questions. The frequent use of topographic maps and orthophoto maps as teaching aids in theory lessons will assist learners. Mapwork skills and interpretation exercises should be regularly practised in all types of questions, e.g. multiple choice, map calculations, map application and interpretation and GIS.

(m) The aim of Section B on Geographical Skills and Techniques is on deriving most answers from the maps provided. Regular revision using past papers from 2014 to 2021 will assist learners to master this skill. The focus, however, should be on the 2021 paper due to the new structure of this section.

(n) Learners need to be made aware that there are distractors in the options given in the multiple-choice questions. They must be taught to recognise subtle differences in the options given. The questions in some instances have important descriptive words which can lead learners to the correct answer, e.g. land-use zones (Q3.2.1; 1 mark). Learners must consider all four options before they make their choice. Teachers are advised to update their methods in setting compliant multiple-choice questions which can include lower-, middle- and higher-order cognitive skills of testing. Learners should be made aware of the principles underlying multiple-choice questions.

(o) Geographic Information Systems must be taught in detail. Teachers must emphasise the significance and purpose of GIS concepts and how to apply them (Q3.3.3–Q3.3.5), e.g. linking data layers and choice of location of a feature like a graveyard.

(p) Teachers should expose learners to the correct methods for calculations. The *2021 Examination Guidelines* and NSC marking guidelines clearly illustrate this. It must be noted that while certain methods may be correct in Mathematics they could be inappropriate in Geography.

(q) When practising and setting Mapwork exercises teachers are encouraged to use a variety of maps which reflect the different regions of South Africa, e.g. inland or coastal regions, and from different provinces. This will prepare candidates to answer questions on whichever map they receive in the NSC examination. A variety of maps are available to teachers and learners from past NSC examinations.

(r) Teachers need to refer to the *Examination Guidelines* and the *CAPS* document consistently to ensure that all relevant content is covered or unnecessary information is not emphasised to learners. Learners should also be exposed to or be given these guidelines as it would give them clear direction on what is important for them to focus on and they can then prepare accordingly.

(s) Teachers must set compliant tasks according to the requirements in the *CAPS* document. Blooms' Taxonomy or a similar tool should always be supplied for formal tests, examinations and tasks. The weighting is 25% lower-order, 50% middle-order and 25% higher-order. If too many lower-order questions are asked in the internal assessment conducted at school, learners will not be exposed to questions addressing a higher cognitive demand as asked in the final NSC examination. This will give learners false notions of the level of performance required. All tasks should be based on the new 2021 structure regarding structure and content distribution.

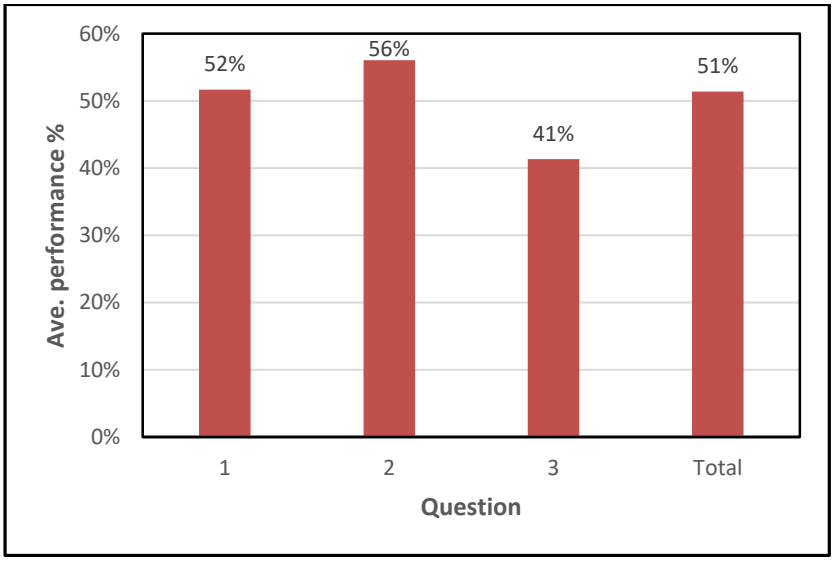
(t) Teachers need to emphasise the importance of units of measurement in the final answers where required. Marks will not be awarded if the correct unit of measurement is not provided in the final answer. Learners should be made aware that this instruction applies to both the theory and mapwork sections of the question paper.

(u) In addition using previous examination papers and SABC revision programmes to explain and revise important geographical concepts, other useful tools include *YouTube* live feeds. Teachers need to ensure that these programmes are correct and reliable before exposing learners to them.

6.7 DIAGNOSTIC QUESTION ANALYSIS FOR PAPER 2

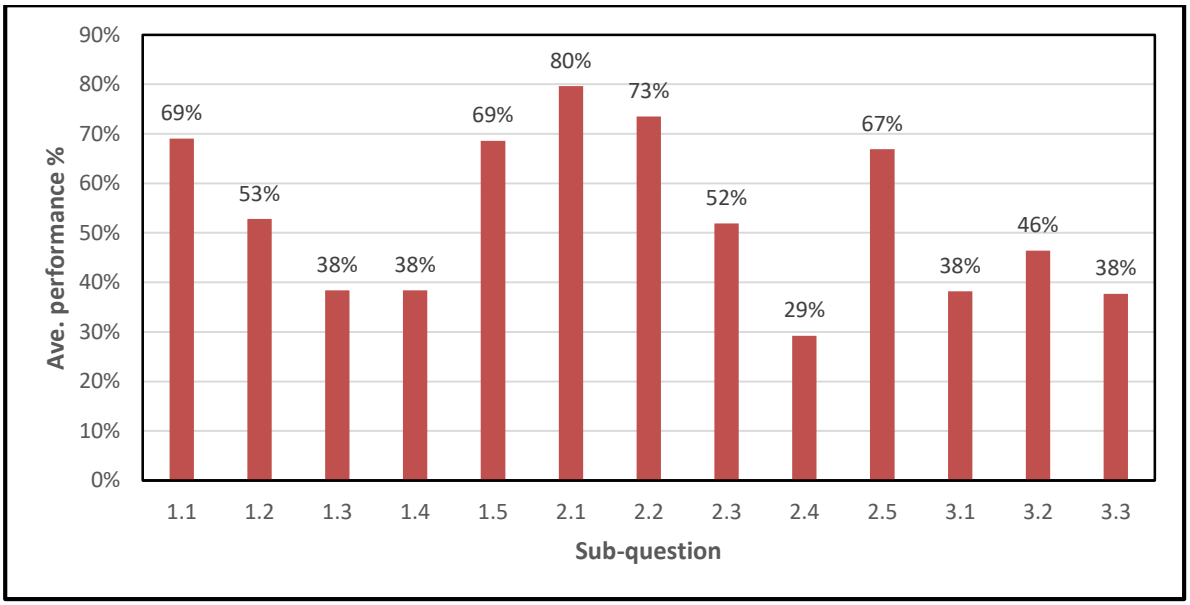
The following graph is based on data from a random sample of 100 candidates per province. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates.

Graph 6.7.1 Average performance per question in Paper 2



Q	Topics
1	Rural and Urban Settlements
2	Economic Geography of South Africa
3	Geographical Skills and Techniques

Graph 6.7.2 Average performance per subquestion in Paper 2



Sub-Q	Topics	Sub-Q	Topics
1.1	Settlement terminology	2.3	Coal mining
1.2	Hierarchy of settlements	2.4	SW Cape core industrial region and W. Coast SDI
1.3	Rural-urban migration	2.5	Informal Sector
1.4	Land-use zones	3.1	Map skills and calculations
1.5	Informal settlements	3.2	Map Interpretation
2.1	Small and large-scale farming	3.3	Geographic Information Systems
2.2	Economic terminology		

6.8 ANALYSIS OF CANDIDATES' PERFORMANCE IN EACH QUESTION IN PAPER 2

QUESTION 1: RURAL AND URBAN SETTLEMENTS

Common errors and misconceptions

(a) Although Q1.1 (8 marks) was well answered, Q1.1.3 (1 mark) created some challenges. Many candidates confused type of settlement with shape of settlement.

(b) In Q1.2 (7 marks) there were various subquestions that were not answered well. This question consisted mainly of lower-order questions and candidates should have performed better. Candidates seem to have been exposed to the hierarchy of settlements but lacked knowledge regarding the description of each type of settlement. It must be noted while most prescribed textbooks cover the hierarchy of settlements, they do not explain them fully.

(c) In Q1.3.1 (1 mark) most candidates did not read the action words properly. The question asked for environmental factors but many candidates gave social and economic factors instead.

(d) Q1.3.2 (2 marks) focused on a decrease of the rural population but instead candidates focused on reasons why people are moving from rural areas to urban areas.

(e) In Q1.3.3 (4 marks) the question required the candidates to relate the negative economic impact of rural urban migration on rural settlements. A significant number of candidates wrote about the social impacts and some wrote about reasons for rural-urban migration. There is a clear indication that candidates did not interpret the question correctly.

(f) The poor performance of candidates in Q1.3.4 (8 marks) is possibly due to the way the question was phrased. Candidates struggled to link the difficulty in finding employment and its impact on the quality of life. In the past, a two-part question required candidates to explain two factors and the implications thereof to be awarded the full eight marks. However, in this case, candidates were required to provide four facts and four implications to be awarded full marks.

(g) In Q1.4.2 (2 marks) a significant number of candidates did not clearly understand the concept of *decreasing accessibility* and the term *commuter*. A commuter is a person who travels to work. Many candidates, however, gave other answers related to travelling to school because they lacked an understanding of the term.

(h) Candidates did not interpret Q1.4.3 (4 marks) correctly and described the irregular shape, instead of giving reasons for the irregular shape.

(i) With regard to Q1.4.4 (4 marks), many candidates described the poor state of buildings in the transition zone instead of giving reasons for the buildings being in a poor state. Some candidates did not understand the word *dilapidated*. Once again, there was misinterpretation of the action word used.

(j) In Q1.4.5 (4 marks) candidates were supposed to base their answer on why area C will attract high income residential areas but they compared area C to other areas like the CBD and also focused on the location of area C compared to other land-use zones that may not be attractive.

(k) The slightly lower performance in Q1.5.4 (2 marks) was because candidates did not relate the poor building materials to the impact of the weather conditions. They mostly wrote about the poor building materials.

Suggestions for improvement

(a) Learners must be taught to differentiate between terms/concepts as assessed in Q1.1.3 (1 mark). *Linear* refers to shape and *wet-point* refers to type of settlement. They must know the difference between *rural-urban migration* and *rural depopulation* and how they impact on each other, as asked in Q1.3.2 (2 marks). Teachers must not only give explanations of terms/concepts but explain the differences. Using visual illustrations can help to create more clarity.

Source: [https://alchetron.com]
Linear settlement

Source: buddinggeographers.com
Wet-point settlement

(b) Prescribed textbooks do not always contain all the information prescribed in the *Examination Guidelines* and therefore the teacher needs to do further research. In most textbooks, the topic of hierarchy of urban settlements (Q 1.2) is given in table form without descriptions. Teachers must fully explain the descriptions of settlements according to size and complexity which need to be understood by learners.

(c) Words describing factor impacts, e.g. *environmental factor* (Q1.3.1; 1 mark) and *economic impact* (Q1.3.3; 4 marks), should be well explained to learners. Environmental factors relate to the natural environment, social factors to the well-being of the people and economic factors relate to wealth. In some cases, there are two describing words (e.g. Q1.3.3 *negative economic* impact). Both words need to be considered in order to get the correct answer. Encouraging learners to practise with similar types of questions will create more clarity and assist in them responding correctly in tests and examinations.

(d) Teachers and learners need to take cognizance of the alternative method and structure of the marking guideline for Q1.3.4 (8 marks). The question required a paragraph on rural migrants experiencing difficulty in finding employment in area B and the impact thereof on their quality of life. The word *thereof* links both factors, *difficulty in finding a job* and *quality of life*. Learners have to explain and link both factors in order to obtain two marks per linked fact.

1.3.4	In a paragraph of approximately EIGHT lines, explain why rural migrants experience difficulty in finding employment in area **B** and the impact thereof on their quality of life.	(4 x 2)	(8)

1.3.4	They do not have the necessary documentation required to be registered as an employee therefore cannot afford basic services (can give examples) (2) They are not qualified/Do not have the skills required for the jobs available in urban areas which results in an increase in poverty levels (2)

(g) Q1.4 (15 marks) requires a full study of the source to answer the questions. The sketch needs to be studied in conjunction with the key as this will allow learners to obtain correct responses to questions (Q1.4.1; 1 mark). Learners need to be made aware that questions make specific reference to certain land-use zones and answers must be put into context of what is being referred to and not generalised (refer to Q1.4.2 to Q1.4.5).

(h) The lack of understanding of important action words in a question can impact negatively on learner performance. Q1.4.2 (2 marks) used the terms *accessibility* (meaning the ease with which a place can be reached from one or several other places) and *commuter* (meaning a person who travels between place of residence and workplace daily). If candidates had a good understanding of these words, many more of them would have answered this question correctly. Teachers must not only explain the terms found in the *Examination Guidelines* but also explain the words used frequently in questions.

QUESTION 2: ECONOMIC GEOGRAPHY OF SOUTH AFRICA

Common errors and misconceptions

(a) In Q2.1 (7 marks) candidates performed very well in most of these questions. The poor performance in Q2.1.4 (1 mark) could be due to the candidates not understanding the term *monoculture*.

(b) Q2.3.3 (2 marks) produced a lower performance due to candidates not focusing on the key words in the question. In this case, it was *location* and *export*. Candidates wrote about the expense of transport instead of mentioning how the long distances to harbours increase costs.

(c) Q2.3.5 (6 marks) was an *explain how* question and it required a qualification. Candidates, in many instances, did not give a qualifier, e.g., they wrote about the mines closing down but did not indicate the qualifier which was increase in unemployment.

(d) In Q2.4.3 (a) (4 marks) the expected answer required the candidate to explain how the SW Cape core industrial region favoured the development of light industries. Q2.4.3 (b) (4 marks) expected an answer that required the candidate to explain how the SW Cape core industrial region limited the development of heavy industries. Most candidates lacked content knowledge on factors that favour industrial development in the South-West Cape. Many candidates wrote about general factors that influence the development of light and heavy industries. These were high-order difficult questions.

(e) Q2.4.4 (4 marks) was a higher-order, very difficult question that required candidates to relate how the West Coast SDI creates increased access for the SW Cape core industrial region to international markets. Most candidates struggled to connect these two factors.

(f) Q2.3, Q2.4 and Q2.5 used an infographic as the source. Many candidates lost marks as they experienced challenges with comprehension skills like quoting from the source or providing evidence from the source which are regarded as being of lower-order cognitive challenge and easy. Candidates had to quote from the infographic e.g. Q2.3.1 (1 mark), Q2.3.4 (4 marks), Q2.4.1 (1 mark), Q2.5.2 (1 mark), Q2.5.3 (4 marks). This added up to 11 marks which was 18.3% of Q2.

(g) With regard to Q2.5.1 (2 marks), some candidates could not differentiate between *informal sector* and *informal settlement* and defined an informal settlement instead of sector. Candidates gave characteristics of the informal sector instead of defining it. In other instances, definitions were vague.

(h) In Q2.5.4 (8 marks) the phrase *strengthens the informal sector* created a challenge for candidates with language barriers. Candidates assumed that they had to write about formalising the sector instead of how to improve the informal sector.

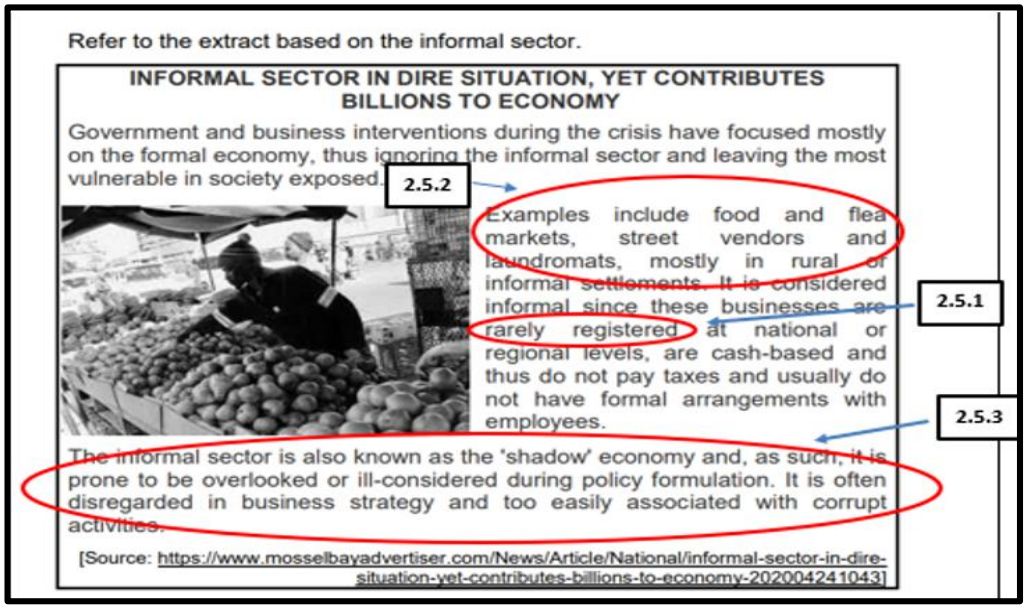
Suggestions for improvement

(a) Teachers must explain concepts related to different sections (e.g. Q2.1.4; 1 mark). Monoculture (large scale farming) is cultivation of a single crop over a large area.

(b) Learners need to be made aware of the different ways in which multiple-choice questions can be tested. For example, Q2.2.5 (1 mark) reflects four types of industries associated with bulk transport, i.e. (i) to (iv) while four options of combinations are provided, i.e. A to D.

In this scenario candidates had to choose the two correct options and then select an answer from the letters A to D. Learners should be taught to eliminate the incorrect answers from the combinations provided to arrive at the correct answer. In this case light industries (iii) do not require bulk transport and therefore any combination with (iii) is incorrect. While heavy industries (ii) and raw material oriented industries (iv) require bulk transport, and therefore a combination of the two is correct.

(c) Learners must note that answers and clues to answers can come from the infographic in Q2.5. For example, Q2.5.1 (2 marks) focuses on the term *rarely registered* in paragraph 2; Q2.5.2 (1 mark) focuses on paragraph 1 commencing *Examples include …* and Q2.5.3 (4 marks) focuses on paragraph 3 commencing *The informal sector is also* …



2.5.1	Define the concept *informal sector*.	(1 x 2)	(2)
2.5.2	Give an example of an informal activity in the extract.	(1 x 1)	(1)
2.5.3	Why is the informal settlement considered part of a 'shadow' economy? Quote from the extract.	(2 x 2)	(4)

2.5.1 Businesses that are not registered (and do not pay income taxes) (2)
[CONCEPT] (1 x 2) (2)

2.5.2 Food (1)
Flea markets (1)
Street vendors (1)
Laundromats (1)
[ANY ONE] (1 x 1) (1)

2.5.3 'Prone to be overlooked' (2)
'Ill-considered during policy formulation' (2)
'Disregarded in business strategies' (2)
'Easily associated with corrupt activities' (2)
[ANY TWO] (2 x 2) (4)

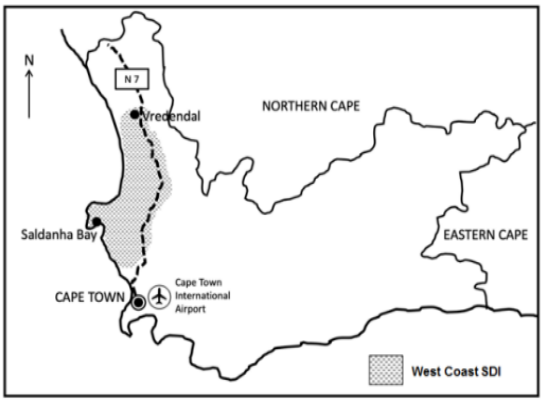
Note candidates were assisted by the infographic in all three questions.

(d) Definitions are now worth 2 marks and comprehensive definitions need to be given e.g. Q2.5.1 required the definition of the *informal sector* – Businesses are not registered and do not pay tax.

(e) When providing a quote, as in Q2.5.3 (4 marks), learners must write down exactly what is stated in the infographic to be awarded full marks.

(f) When reference is made to a source, as in Q2.4.2 (2 marks), only answers directly from the source must be given in order to be credited. Rail could not be accepted as a mode of transport as it was not indicated on the map.

(g) Q2.4.4 (4 marks) is an example of a higher-order, difficult question which involves linking various factors. The factors to be linked can be interpreted more effectively by highlighting important aspects of the question. This assists the learner to focus on them when answering the question. In this case the important focus is on *West Coast SDI*, *South-Western Cape* and *international markets*.



2.4.4 Explain how the West Coast Spatial Development Initiative (SDI) creates increased excess for the South – western Cape core industrial region to international markets.

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

Common errors and misconceptions

(a) In Q3.1.1 (1 mark) many candidates did not analyse the map thoroughly. If they had looked at the information on the side of the mapped area, they would have found that Camden was the closest to Ermelo.

(b) Q3.1.2 (1 mark), most candidates had a limited knowledge with regard to interpreting cross-sections and relating it to the topographic or orthophoto map, e.g. using the contour lines to determine the correct cross-section. Most candidates struggled to identify that there was a spot height inside the last contour line, indicating that height is still increasing.

(c) In Q3.1.3 (2 marks) candidates did not seem to understand the term *intervisibility* and therefore could not answer the question correctly. Some candidates chose options B and D where there was no Intervisibility.

(d) With regard to Q3.1.4 (1 mark), candidates experienced challenges with identifying height using contour lines and therefore answered the question incorrectly. Some candidates did not give the unit of measurement in the final answer of the calculation and so lost marks.

(e) In Q3.1.5 (2 marks), candidates used the incorrect point to measure the distance, e.g. the tip of the arrow instead of the dot at the spot height and therefore measured incorrectly. In some instances, candidates used 55 mm and multiplied by 500 m instead of 5,5 cm. Some candidates lost marks because they did not put the unit in the final answer.

(f) In Q3.1.6 (2 marks) the calculation of average gradient remained a perennial problem. Some candidates used the mathematical method of simplifying and lost marks. Mathematical methods are acceptable if they are geographically correct. A significant number of candidates did not know how to express the final answer as a ratio.

(g) With regard to Q3.1.7 (1 mark), calculating the grid reference of a feature was done thoroughly but finding the feature using the grid reference was not covered properly.

(h) In Q3.2.1 (1 mark) candidates experienced challenges with regard to application of theory to the map, e.g. the area being tested clearly shows the sewerage works which is characteristic of the rural-urban fringe. If the candidates had identified this feature, they would have gotten the answer easily.

(i) In Q3.2.2 (2 marks) a significant number of candidates did not know what a sewerage works is, and some even considered it a recreational facility. The question focused on the impact of sewerage works on the value of property, but candidates gave general answers for reducing the value of property and did not talk about the relationship between the two.

(j) Candidates experienced challenges in Q3.2.3 (2 marks) with regard to applying the theory to the Geographical Skills and Techniques. In some cases, candidates gave characteristics of the street pattern instead of naming the street pattern. The term *unplanned* was given instead of *irregular*.

(k) Candidates would have gotten Q3.2.4 (2 marks) incorrect because they answered Q3.2.3 (2 marks) incorrectly. The question focused on new developments but candidates gave general answers for a grid iron pattern not being popular, e.g. describing the pattern as *boring* is incorrect.

(l) In Q3.2.5 (1 mark) candidates seemed to lack knowledge of examples of economic activities and therefore chose *secondary* instead of *tertiary* to describe the main economic activity.

(m) Q3.2.6 (2 marks) was related to Q3.2.5 (1 mark) and if the candidate got Q3.2.5 wrong, they would have gotten this question incorrect as well. Candidates had to look at the suitability of the area for a hospital but candidates gave general answers, e.g. *trees* instead of *close proximity to residential areas*.

(n) In Q3.2.7 (2 marks) candidates also seemed to engage in selective reading and focused on the word *injustices* instead of *environmental injustices*. They gave social and economic injustices which was incorrect.

(o) Candidates could not differentiate between a *line feature* and a *polygon feature* in Q3.3.1 (1 mark) and Q3.3.2 (1 mark) and in other instances, candidates just gave a line feature, e.g. a *road* instead of the *natural line feature*, e.g. the *river* as was asked.

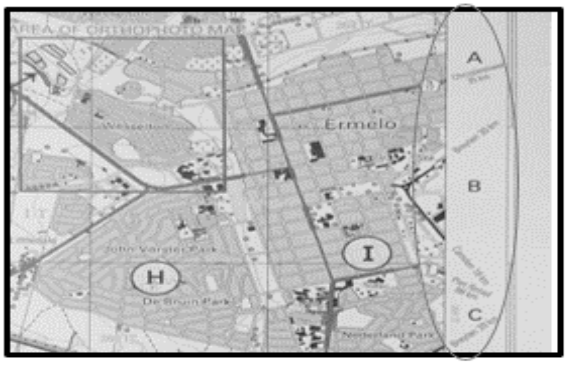
(p) In Q3.3.3 (2 marks) a significant number of candidates did not seem to have an understanding of the concept *remote sensing*. Remote sensing is taking images of the Earth without being in physical contact with the Earth's surface. Many candidates gave examples of remote sensing instead.

(q) Q3.3.5 (2 marks) which was based on the open-cast mine was poorly answered by many candidates. The question had unfair distractors, e.g. the use of the concept *environmental injustice* which could have impacted on the performance of the candidates. Q3.3.5 could have been rephrased in a straight-forward manner as it was simply dealing with the advantages of using an image of a topographic map.

Suggestions for improvement

(a) It is imperative that theory and mapwork be integrated during teaching and revision, as Q3 (30 marks) and especially Q3.2 (12 marks), are related to application of theory. For example, learners can be shown where the rural-urban fringe is on a map and its characteristics (sewerage works). It is also important to explain the characteristics of these land-use zones i.e. Q3.2.1 (1 mark) and Q3.2.2 (1 mark).

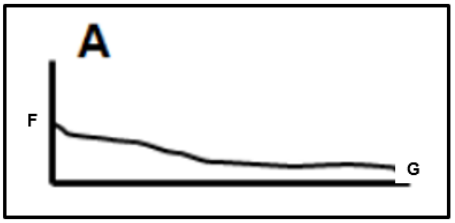
(b) It is important to analyse the map thoroughly including the details on the side of the map as was required in Q3.1.1 (1 mark).

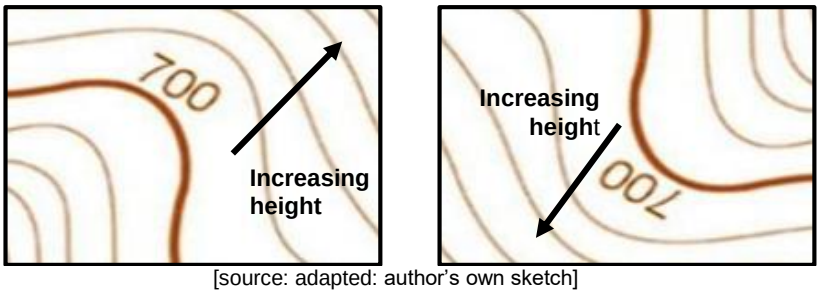


The answer for Q3.1.1 could be found by looking at the encircled area.

(c) It is important to show learners how to apply cross-sections to the topographic map, as was required in Q3.1.2 (1 mark)/Q3.1.3 (1 mark).

By analysing the contour lines between F and G it could be seen that F is at a higher level and the gradient between F and G is more gradual. Therefore, the choice for the cross-section would be A. The term 'intervisibility' can be defined as determining whether one point is visible from the other. It can be clearly seen that F is visible from G, as there is no obstruction between the two points. In order to determine in which direction the height is increasing or decreasing learners should look at the direction in which the figures indicating height are facing.

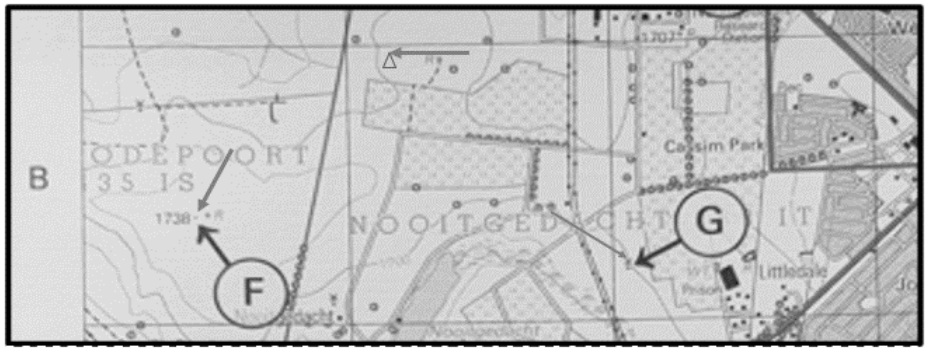




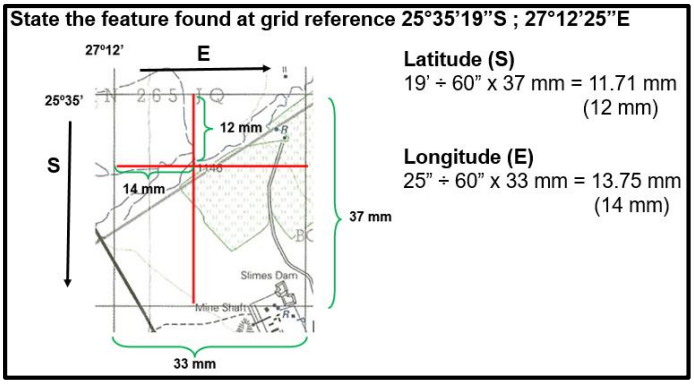
[source: adapted: author's own sketch]

Learners must note that calculations can be questioned in different formats, e.g. Q3.1.4–Q3.1.6 (5 marks). It is important when teaching average gradient to check whether the method being used is geographically correct. A suggestion is to use the method found in the NSC examination papers. The following DBE website could be used to source past papers and marking guides:
https://www.education.gov.za/Curriculum/NationalSeniorCertificate(NSC)Examinations/NSCPastExaminationpapers.aspx

(d) When teaching calculations, emphasis must be placed on where to take the measurement from: The apex of the triangle of the trigonometrical station, the dot of the spot height, the point where the feature touches the contour line (Q3.1). Arrows and the alpha-numeric grid are used to direct the learners to a particular feature.



(e) It is important, when identifying a feature using the grid reference, to visually illustrate it.



(f) Learners must be encouraged to read the entire question properly e.g. Q3.3.1 (1 mark) referred to a *natural line feature* and not just the *line feature*.

(g) Reading of the introductory statement above questions is very important. In Q3.2.5 (1 mark) and Q3.2.6 (2 marks) the statement reads *Refer to the hospital …* It tells the candidate what feature 6 is which will assist candidates in determining the economic activity. Learners must focus only on the blocks referred to and not the other blocks, as the responses outside of those blocks will not be considered.

(h) Clarity needs to be created between the characteristic of a feature/concept and the feature/concept. For example, in Q3.2.3 (2 marks) the street pattern is irregular and the characteristic is planned/unplanned.