



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P1

NOVEMBER 2018

MARKS: 225

TIME: 3 hours

This question paper consists of 13 pages and a 13-page annexure.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions.
2. Answer ANY THREE questions of 75 marks each.
3. All diagrams are included in the ANNEXURE.
4. Leave a line between subsections of questions answered.
5. Start EACH question at the top of a NEW page.
6. Number the answers correctly according to the numbering system used in this question paper.
7. Number the answers in the centre of the line.
8. Do NOT write in the margins of the ANSWER BOOK.
9. Draw fully labelled diagrams when instructed to do so.
10. Answer in FULL SENTENCES, except where you have to state, name, identify or list.
11. Units of measurement MUST be indicated in your final answers, e.g. 1 020 hPa, 14 °C or 45 m.
12. Write neatly and legibly.

SECTION A: CLIMATE, WEATHER AND GEOMORPHOLOGY**QUESTION 1**

- 1.1 Refer to FIGURE 1.1 which shows anticyclones over South Africa. Choose the correct word(s) from those given in brackets. Write only the word(s) next to the question numbers (1.1.1 to 1.1.7) in the ANSWER BOOK.
- 1.1.1 Pressure cell **A** is situated further (north/south) in winter.
- 1.1.2 Pressure cell **B** is named the (South Atlantic/South Indian) High-Pressure Cell.
- 1.1.3 When isobars are elongated away from pressure cell **B** they form a (ridge/trough).
- 1.1.4 The pressure reading at **C** is approximately (1 012 hPa/1 016 hPa).
- 1.1.5 The wind speed at weather station **D** is (20 knots/10 knots).
- 1.1.6 The wind direction at weather station **D** is (north-east/north-west).
- 1.1.7 Pressure cells **A**, **B** and **C** represent the (equatorial low/subtropical high) pressure belt. (7 x 1) (7)
- 1.2 FIGURE 1.2 shows sketches (1 to 4) based on river capture.
- 1.2.1 Refer to sketch 1. Which one, river **A** or river **B**, is likely to be the captor stream?
- 1.2.2 Name the climatic factor causing river **B** in sketch 2 to erode at a faster rate.
- 1.2.3 What type of erosion caused the watershed to move towards river **A** in sketch 2?
- 1.2.4 Refer to sketch 3. Which one, river **A** or river **B**, is the captured stream?
- 1.2.5 Refer to sketch 4. Name the feature of river capture at **C**.
- 1.2.6 Refer to sketch 4. Name the feature of river capture at **D**.
- 1.2.7 What is the term used to describe river **A** which has been reduced in volume in sketch 4?
- 1.2.8 Does river **A** or river **B** flow at a lower altitude in sketch 2? (8 x 1) (8)

- 1.3 Study FIGURE 1.3 showing mid-latitude cyclones on a synoptic weather map of southern Africa.
- 1.3.1 Give the term used to describe the linked mid-latitude cyclones. (1 x 1) (1)
- 1.3.2 What evidence suggests that mid-latitude cyclone **A** is the oldest? (1 x 2) (2)
- 1.3.3 Why is front **D** NOT associated with heavy rain? (1 x 2) (2)
- 1.3.4 What causes the dissipation of mid-latitude cyclones? (1 x 2) (2)
- 1.3.5 Write a paragraph of approximately EIGHT lines explaining the weather conditions that will be experienced by a tourist visiting Cape Town with the approach of a cold front. (4 x 2) (8)
- 1.4 Study FIGURE 1.4 showing a diagram on valley climates.
- 1.4.1 Is the slope wind at **X** an anabatic or a katabatic wind? (1 x 1) (1)
- 1.4.2 Other than the label, what evidence indicates that **B** is the thermal belt? (1 x 1) (1)
- 1.4.3 What is the term used to describe an increase in the temperature as the height increases in the valley? (1 x 1) (1)
- 1.4.4 Explain why slope wind **X** will be more intense in winter. (2 x 2) (4)
- 1.4.5 Account for the low temperature that is likely to be experienced on the valley floor during winter. (2 x 2) (4)
- 1.4.6 How will farmers have to adapt their farming techniques (methods) due to the temperature change on the valley floor? (2 x 2) (4)
- 1.5 FIGURE 1.5 shows a river system with a low drainage density.
- 1.5.1 Give evidence to suggest that the river system has a low drainage density. (1 x 1) (1)
- 1.5.2 Describe TWO factors that may have resulted in a low drainage density. (2 x 2) (4)
- 1.5.3 How will an increased drainage density impact on the existing stream order at **A**? (1 x 2) (2)
- 1.5.4 Write a paragraph of approximately EIGHT lines discussing how human activities along the river's course could increase the drainage density of the drainage basin. (4 x 2) (8)

- 1.6 FIGURE 1.6 shows the changing cross-profile of the valley along the river's course.
- 1.6.1 In which course is the source of the river? (1 x 1) (1)
- 1.6.2 Name TWO elements of the cross-profile that changed from the upper to the lower course in FIGURE 1.6. (2 x 1) (2)
- 1.6.3 Differentiate between the fluvial processes that shaped the cross-profiles of the upper course and lower course of the river. (2 x 2) (4)
- 1.6.4 Describe the reasons for the change in the shape of the cross-profile of the middle course. (2 x 2) (4)
- 1.6.5 Explain why the shape of the cross-profile in the upper course of the river will make it the most suitable place to build a dam. (2 x 2) (4)
- [75]**

QUESTION 2

- 2.1 Study FIGURE 2.1, a cross-sectional view of a tropical cyclone.

Choose the correct word(s) from those given in brackets which will make each statement geographically CORRECT. Write only the word(s) next to the question numbers (2.1.1 to 2.1.8) in the ANSWER BOOK.

- 2.1.1 The (eye/vortex) at **A** is characterised by descending air.
- 2.1.2 The area at **B** is an area of (high/low) air pressure.
- 2.1.3 (Light/Heavy) rainfall occurs at **C**.
- 2.1.4 The vertical movements of air at **D** are known as (updraughts/down draughts).
- 2.1.5 The upper air at **E** is (converging/diverging).
- 2.1.6 **F** is associated with (low/high) air pressure.
- 2.1.7 The graph (**G**) shows air (pressure/temperature) with the passage of the tropical cyclone.
- 2.1.8 Surface (air temperature/wind speed) is depicted by graph **H**. (8 x 1) (8)

- 2.2 Choose a term from COLUMN B that matches the fluvial landform description in COLUMN A. Write only the letter (A–H) next to the question numbers (2.2.1 to 2.2.7) in the ANSWER BOOK, e.g. 2.2.8 I.

COLUMN A		COLUMN B	
2.2.1	Flat, natural feature next to a river	A	rapid
2.2.2	An embankment along the river where coarse material is deposited first	B	delta
		C	meander
2.2.3	Curves or bends found along the course of a river	D	braided stream
		E	floodplain
2.2.4	When a meander loop becomes separated from the river	F	oxbow lake
2.2.5	Streams with multiple channels and islands of sediment between the channels	G	levee
		H	waterfall
2.2.6	A vertical drop in the course of a river as a result of softer rock eroding faster than hard rock		
2.2.7	A depositional landform that occurs when a river flows into the ocean		

(7 x 1) (7)

- 2.3 FIGURE 2.3 shows line thunderstorms over South Africa.

- 2.3.1 Name the front over the interior of the country where line thunderstorms originate. (1 x 1) (1)
- 2.3.2 What evidence suggests that line thunderstorms are illustrated (shown)? (1 x 2) (2)
- 2.3.3 Why are line thunderstorms generally associated with summer? (1 x 2) (2)
- 2.3.4 What is the source of moisture for the formation of line thunderstorms? (1 x 2) (2)
- 2.3.5 Why is there usually a thicker band of clouds to the east of the front? (2 x 2) (4)
- 2.3.6 Explain why the weather conditions associated with line thunderstorms are more severe than isolated (normal) thunderstorms. (2 x 2) (4)

- 2.4 Refer to FIGURE 2.4 showing a pollution dome over a South African city.
- 2.4.1 What is a *pollution dome*? (1 x 1) (1)
- 2.4.2 Why is a pollution dome associated with an urban area? (1 x 2) (2)
- 2.4.3 Explain why the pollution dome is more concentrated at night. (2 x 2) (4)
- 2.4.4 Write a paragraph of approximately EIGHT lines explaining how pollution domes increase the maintenance costs of the built environment for people living in the city. (4 x 2) (8)
- 2.5 Study FIGURE 2.5 which illustrates river rejuvenation.
- 2.5.1 Define the term *river rejuvenation*. (1 x 1) (1)
- 2.5.2 Identify the condition that resulted in river rejuvenation. (1 x 1) (1)
- 2.5.3 Name ONE likely fluvial feature that can form at the knickpoint along the river profile. (1 x 1) (1)
- 2.5.4 Explain the impact of river rejuvenation on the grading of a river. (2 x 2) (4)
- 2.5.5 Write a paragraph of approximately EIGHT lines elaborating on the changes that will occur in the fluvial features found in the illustrated course of the river as a result of river rejuvenation. (4 x 2) (8)
- 2.6 Refer to FIGURE 2.6, an extract based on the impact of deforestation on river management.
- 2.6.1 What is *deforestation*? (1 x 1) (1)
- 2.6.2 (a) By which year is it expected that almost all tropical forests will be lost? (1 x 1) (1)
- (b) The size of which province can be compared to the total area of forests being lost annually? (1 x 1) (1)
- 2.6.3 Name TWO negative consequences of deforestation on river systems. (2 x 2) (4)
- 2.6.4 Suggest TWO measures that can be put in place by the government and non-governmental organisations (NGOs) to manage river systems at risk due to deforestation. (2 x 2) (4)
- 2.6.5 Discuss the negative impact of poor river management practices on South Africa's future water supply. (2 x 2) (4)

[75]

SECTION B: RURAL AND URBAN SETTLEMENTS AND SOUTH AFRICAN ECONOMIC GEOGRAPHY**QUESTION 3**

- 3.1 Choose ONE word/term from the list below that matches a description of settlement patterns or shapes. Write only the word/term next to the question numbers (3.1.1 to 3.1.8) in the ANSWER BOOK.

linear; T-shaped; cross-shaped; dispersed; cobweb;
circular; stellar; semi-circular; nucleated

- 3.1.1 Shape of settlements located along a narrow canal
- 3.1.2 Settlement shape that develops along many main roads which radiate in different directions from a central point
- 3.1.3 Shape of settlement located along a harbour
- 3.1.4 Settlement shape that resulted from houses that are grouped around a market square
- 3.1.5 Settlement pattern that resulted from houses being close together
- 3.1.6 Settlement shape where two major roads intersect
- 3.1.7 Settlement pattern that resulted when houses are far apart from each other
- 3.1.8 Settlement shape where a secondary road meets with a main road
(8 x 1) (8)

- 3.2 Refer to FIGURE 3.2 depicting the sector composition of the South African economy in 2017.

Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question numbers (3.2.1 to 3.2.7) in the ANSWER BOOK, e.g. 3.2.8 A.

- 3.2.1 The total value of goods and services produced in a country in one year:

- A GNP
- B GDP
- C GPP
- D RDP

3.2.2 Which tertiary activity contributed the most to the South African economy?

- A General government services
- B Manufacturing
- C Trade, catering and accommodation
- D Finance, real estate and business services

3.2.3 ... form(s) part of the tertiary sector of the economy.

- A Agriculture, forestry and fishing
- B Electricity, gas and water
- C Mining and quarrying
- D Manufacturing

3.2.4 Name the category that contributed the least to the primary sector in 2017:

- A Mining and quarrying
- B Construction
- C Transport, storage and communication
- D Agriculture, forestry, fishing

3.2.5 This category dominated the secondary sector in 2017:

- A General government services
- B Manufacturing
- C Trade, catering and accommodation
- D Finance, real estate and business services

3.2.6 Which tertiary activity contributed the least to the South African economy in 2017?

- A Personal services
- B General government services
- C Electricity, gas and water
- D Transport, storage and communication

3.2.7 What percentage did the tertiary sector contribute to the South African economy in 2017?

- A 10%
- B 25%
- C 77%
- D 91%

(7 x 1) (7)

- 3.3 FIGURE 3.3 shows bar graphs indicating the level and rate of urbanisation in South Africa between 2006 and 2016.
- 3.3.1 Define the term *urbanisation*. (1 x 1) (1)
- 3.3.2 State the relationship between the level and the rate of urbanisation between 2006 and 2016. (1 x 2) (2)
- 3.3.3 Discuss TWO physical factors in the rural area that could have contributed to the rate of urbanisation shown in FIGURE 3.3. (2 x 2) (4)
- 3.3.4 Write a paragraph of approximately EIGHT lines discussing the reasons why the rate and level of urbanisation has led to increased protests against service delivery in urban areas. (4 x 2) (8)
- 3.4 FIGURE 3.4 shows the rural-urban fringe marked as **A**.
- 3.4.1 What is the *rural-urban fringe*? (1 x 1) (1)
- 3.4.2 State TWO urban land uses that are evident in the rural-urban fringe (**A**). (2 x 1) (2)
- 3.4.3 Give TWO reasons why the rural-urban fringe is becoming more urban in nature. (2 x 2) (4)
- 3.4.4 Why is the rural-urban fringe an attractive location for the gated community (secure neighbourhood with security guards and controlled access)? (2 x 2) (4)
- 3.4.5 The demand for housing is growing rapidly and developers are looking at the rural-urban fringe as a solution for the shortage of building space. Suggest TWO possible objections to planned housing developments in the rural-urban fringe. (2 x 2) (4)
- 3.5 Refer to FIGURE 3.5, an extract on South Africa's beef industry.
- 3.5.1 Which country had the highest exportation of beef in 2016? (1 x 1) (1)
- 3.5.2 Quote evidence from the extract that suggests that the beef industry is growing in South Africa. (1 x 1) (1)
- 3.5.3 Refer to the statement below.
- By exporting higher quality beef, our industry can protect itself from shocks that result in reduced profits.
- (a) Why does the exportation of low quality beef reduce profits? (1 x 1) (1)
- (b) Suggest how farmers can produce higher quality beef. (2 x 2) (4)
- 3.5.4 Write a paragraph of approximately EIGHT lines explaining the factors preventing South Africa from being competitive with other top beef exporters. (4 x 2) (8)

3.6 Read the extract in FIGURE 3.6 referring to the East London IDZ.

- | | | | |
|-------|---|---------|-------------|
| 3.6.1 | In which province is the East London IDZ located? | (1 x 1) | (1) |
| 3.6.2 | Give TWO positive impacts of the East London IDZ identified in FIGURE 3.6. | (2 x 1) | (2) |
| 3.6.3 | How did the development of the East London IDZ improve the infrastructure of the province? | (2 x 2) | (4) |
| 3.6.4 | Give TWO incentives that the provincial government could have offered to attract investment to the East London IDZ. | (2 x 2) | (4) |
| 3.6.5 | Explain why it is more beneficial for the economy of the province in which ELIDZ is situated if companies focus on export-orientated manufacturing. | (2 x 2) | (4) |
| | | | [75] |

QUESTION 4

4.1 Refer to FIGURE 4.1 on different street patterns. Match the descriptions below with street patterns **A**, **B** or **C**. Choose the answer and write only the letter A, B or C next to the question numbers (4.1.1 to 4.1.7) in the ANSWER BOOK, e.g. 4.1.8 A. You may choose the same letter more than once.

- | | | |
|-------|---|-------------|
| 4.1.1 | Commonly found in the oldest parts of South African cities | |
| 4.1.2 | Transport routes radiate from a central point | |
| 4.1.3 | Streets intersect at right angles and planning is made easy | |
| 4.1.4 | Associated with ancient cities with ring roads as a feature | |
| 4.1.5 | Associated with new urban developments | |
| 4.1.6 | Can result in traffic congestion | |
| 4.1.7 | Suburbs with this street pattern will have irregular roads for the smooth flow of traffic | (7 x 1) (7) |

4.2 Refer to FIGURE 4.2 showing statistics on gold mining in January 2017.

- | | |
|-------|---|
| 4.2.1 | Name the province where the most gold is mined in South Africa. |
| 4.2.2 | Which gold mine in Gauteng produces the most gold per ounce (oz) in South Africa? |
| 4.2.3 | Name the mining company that produced the most gold. |
| 4.2.4 | Name the country with the highest production of gold in the world. |

- 4.2.5 What is the ranking of South Africa in terms of gold production in the world? (1)
- 4.2.6 Calculate the contribution that Africa made to the world's gold production in January 2017. (1)
- 4.2.7 At the end of which year did South Africa's gold production drop to its lowest point? (1)
- 4.2.8 Is the most recent production of gold in South Africa showing an increasing or decreasing trend? (8 x 1) (8)
- 4.3 Read the extract in FIGURE 4.3 referring to poor public transport as an economic injustice in South Africa.
- 4.3.1 Name the type of public transport system highlighted in the extract. (1 x 1) (1)
- 4.3.2 Give ONE reason why the poor public transport system named in QUESTION 4.3.1 is considered to be an economic injustice. (1 x 1) (1)
- 4.3.3 What drastic measure has government taken to solve the taxi crisis? (1 x 1) (1)
- 4.3.4 Why does the taxi industry transport 15 million commuters daily? (2 x 2) (4)
- 4.3.5 Why are taxi drivers against new taxi businesses such as Uber and Taxify? (2 x 2) (4)
- 4.3.6 Discuss TWO possible solutions that government could implement to reduce taxi violence. (2 x 2) (4)
- 4.4 FIGURE 4.4 shows water as a social justice issue in rural areas.
- 4.4.1 How was water transported in rural areas prior to the invention of the water wheel shown in FIGURE 4.4? (1 x 1) (1)
- 4.4.2 How has the water wheel by Wello changed access to water in rural areas? (1 x 2) (2)
- 4.4.3 What role can access to water in rural areas play in reducing poverty? (1 x 2) (2)
- 4.4.4 Give a reason for the poor water infrastructure in rural areas of South Africa. (1 x 2) (2)
- 4.4.5 Write a paragraph of approximately EIGHT lines suggesting sustainable solutions to improve access to water in rural areas. (4 x 2) (8)

4.5 Read the extract in FIGURE 4.5 based on the PWV/Gauteng Industrial Region.

4.5.1 Quote evidence from the article to support the statement that the PWV/Gauteng Industrial Region is a core industrial region. (1 x 1) (1)

4.5.2 Discuss ONE factor that has contributed to the PWV/Gauteng Industrial Region being a preferred destination for international investors. (1 x 2) (2)

4.5.3 Gauteng's manufacturing sector is a major market for copper.

(a) Why is the Phalaborwa SDI the main supplier of copper to Gauteng? (1 x 2) (2)

(b) How will the Phalaborwa SDI benefit from strengthening its trading links with Gauteng? (1 x 2) (2)

4.5.4 Write a paragraph of approximately EIGHT lines explaining how energy provision and labour will become major challenges that the PWV/Gauteng Industrial Region will experience in the processing of copper in the next three years. (4 x 2) (8)

4.6 Refer to the cartoon in FIGURE 4.6 showing the role of international trade in the South African economy.

4.6.1 What is *international trade*? (1 x 1) (1)

4.6.2 Name the product that is being imported into South Africa in large quantities. (1 x 1) (1)

4.6.3 Which government department is represented as the referee in the cartoon? (1 x 1) (1)

4.6.4 Explain why the cartoon suggests that the fight cannot be nice, clean and fair. (1 x 2) (2)

4.6.5 Name ONE way in which cheap imports negatively impact on the GDP of South Africa. (1 x 2) (2)

4.6.6 Why are cheap imports allowed into South Africa despite its negative impact on the economy of South Africa? (2 x 2) (4)

4.6.7 Suggest TWO possible measures to reduce South Africa's reliance (dependence) on cheap imports. (2 x 2) (4)
[75]

TOTAL: 225