



Province of the  
**EASTERN CAPE**  
EDUCATION

## **NATIONAL SENIOR CERTIFICATE**

**GRADE 12**

**SEPTEMBER 2013**

**GEOGRAPHY P1**

**MARKS: 300**

**TIME: 3 hours**



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This question paper consists of 16 pages and an annexure of 13 pages.

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**INSTRUCTIONS AND INFORMATION**

1. This question paper consists of TWO sections, namely SECTION A and SECTION B.
2. Answer THREE questions to be chosen as follows:  
  
ONE question from SECTION A  
ONE question from SECTION B  
A THIRD question from SECTION A or SECTION B  
(Which has NOT been answered already)
3. All diagrams are included in the annexure.
4. Leave a line between subsections answered.
5. Start EACH question on a NEW page.
6. Number the answers correctly according to the numbering system used in this question paper.
7. Do NOT write in the margins of the ANSWER BOOK.
8. Encircle the numbers of the questions that you have answered on the cover page of the ANSWER BOOK.
9. Where possible, illustrate your answer with labelled diagrams.
10. Write neatly and legible.
11. Mark allocation: If marks are given as follows –  $3 \times 2 = 6$ , it means that THREE facts should be given for TWO marks each.

If marks are given as follows –  $3 \times 1 = 3$ , it means that THREE facts should be given for ONE mark each.

Essay type questions must be answered in FULL SENTENCES. LISTING will result in marks being deducted.

**SECTION A: PHYSICAL GEOGRAPHY: CLIMATE AND WEATHER, FLUVIAL PROCESSES AND STRUCTURAL LANDFORMS**

Answer at least ONE question from this section.

**QUESTION 1**

1.1 Indicate whether the following statements are TRUE or FALSE. Choose the correct answer and write only 'true' or 'false' next to the question number (1.1.1 – 1.1.10), for example 1.1.11 True.

- |        |   |     |
|--------|---|-----|
| 1.1.1  | A zone that separates cold polar winds from warm westerly winds is known as the polar front.  | (2) |
| 1.1.2  | Bergwind conditions along the south east coast of South Africa are the result of the interaction between the South Indian high pressure and the coastal low pressure. | (2) |
| 1.1.3  | A line thunderstorm is rainfall caused by a trough of low pressure over the plateau.  | (2) |
| 1.1.4  | Divergence is the flow of air into a high pressure system.  | (2) |
| 1.1.5  | The absorption of long wave radiation by air particles, gases and clouds is known as the greenhouse effect.   | (2) |
| 1.1.6  | A superimposed stream has maintained its original slope and direction and has not adjusted to the present rock structure.   | (2) |
| 1.1.7  | Grading of rivers according to a hierarchy is known as stream order.  | (2) |
| 1.1.8  | The time interval between the peak rainfall intensity and the maximum river flow is known as the peak flow.   | (2) |
| 1.1.9  | Stream density is the main factor that influences stream flow.  | (2) |
| 1.1.10 | The V-shaped valley is a fluvial feature most commonly found in the upper course of a river.  | (2) |

- 1.2 Study FIGURE 1.2 depicting the global circulation of air in the form of the tricellular arrangement to answer the following questions.
- 1.2.1 Identify the cells labelled **A**, **B** and **C** that bring about the global circulation of air. (3 x 1) (3)
- 1.2.2 Why is the air movement associated with the three cells (QUESTION 1.2.1) important? (1 x 2) (2)
- 1.2.3 Which of the cells is likely to affect South Africa the most? Explain your answer. (2 x 2) (4)
- 1.2.4 What causes the heavy subsidence of air in area **B**? (1 x 2) (2)
- 1.2.5 State ONE weather condition associated with cell **A** and give a reason for your answer. (1 + 2) (3)
- 1.3 Study FIGURE 1.3 which depicts a weather map to answer the following questions:
- 1.3.1 Give ONE reason to state why this map is representative of the winter season. (1 x 2) (2)
- 1.3.2 Name the pressure cells labelled **A**, **B**, **C** and **D**. (4 x 1) (4)
- 1.3.3 Identify the weather phenomenon represented by the letter **F**. (1 x 1) (1)
- 1.3.4 What is the term used to describe a series of linked low pressure cells such as **F**, when they pass over an area? (1 x 1) (1)
- 1.3.5 In which general direction does the weather phenomenon at **F** move? (1 x 2) (2)
- 1.3.6 Identify the stage of development of the weather phenomenon at **F**. Give a reason to support your answer. (1 + 2) (3)
- 1.3.7 Name the wind that steers the weather phenomenon at **F**. (1 x 1) (1)

- 1.4 Study the diagrams (FIGURE 1.4) that illustrates the winds that are common in mountainous areas to answer the following questions.
- 1.4.1 Name the type of winds blowing in valley A and valley B respectively. (2 x 1) (2)
- 1.4.2 Suggest a reason for the difference in the direction of air movement in valleys A and B. (1 x 2) (2)
- 1.4.3 If temperatures drop below freezing point overnight, what form of precipitation will form at **C**? (1 x 1) (1)
- 1.4.4 Explain why settlements are more likely to be located at point D on a valley slope. (1 x 1) (1)
- 1.4.5 Tabulate ONE difference between the winds being experienced in valley A and valley B. (1 x 2) (2)
- 1.4.6 Refer to the diagram and explain why temperatures increase with height in valley A. (1 x 2) (2)
- 1.4.7 How do the temperatures experienced at **C** influence farming? (1 x 2) (2)
- 1.5 Study the hydrographs (FIGURE 1.5) depicting the discharge of two different rivers under four different conditions to answer the following questions.
- 1.5.1 Refer to diagram A and match these labels (*small; large*) to the hydrographs numbered 1 and 2. (2 x 1) (2)
- 1.5.2 Refer to diagram B and match these labels (*bare; plant*) cover to the hydrographs numbered 1 and 2. (2 x 1) (2)
- 1.5.3 Refer to diagram C and match these labels (*gentle; steep*) to the hydrographs numbered 1 and 2. (2 x 1) (2)
- 1.5.4 Refer to diagram D and match these labels (*permeable; impermeable*) to the hydrographs numbered 1 and 2. (2 x 1) (2)

- 1.6 Refer to FIGURE 1.6 showing river capture as well as the statement below to answer the following questions.

“It’s been suggested that the very unusual course of the Niger River is a result of river capture ...”

- 1.6.1 Explain the term *river capture*. (1 x 2) (2)
- 1.6.2 Explain how river capture can *rejuvenate* a river. (2 x 2) (4)
- 1.6.3 Refer to the diagram and match each of the labels (**A**, **B** and **C**) with the terms below:
- (a) The captor river (1)
- (b) The captive river (1)
- (c) The point of capture (1)
- 1.7 Make reference to FIGURE 1.7 which illustrates structural landforms and slope elements to answer the following questions.
- 1.7.1 Name the landform features labelled A to E on the diagram. (5 x 1) (5)
- 1.7.2 State the type and nature of the underlying rock associated with feature D. (2 x 1) (2)
- 1.7.3 Mention ONE difference between features A and B. (1 x 2) (2)
- 1.7.4 Draw a cross section of feature A and label the FOUR elements of the slope. (4 x 2) (8)
- 1.7.5 Describe the rock strata associated with features B and C respectively. (2 x 1) (2)
- 1.7.6 Name ONE economic problem that feature C poses for development. (1 x 2) (2)
- 1.7.7 Name the economic importance of feature D. (1 x 2) (2)
- [100]**

**QUESTION 2**

2.1 For each of the following statements, select the correct word(s) in brackets. Write only the word(s) next to the question number (2.1.1 – 2.1.10) for example, 2.1.11 global warming.

- 2.1.1 When the isobars are close together, the air pressure gradient is (*gentle/steep*). (2)
- 2.1.2 Air rises (*clockwise/anti-clockwise*) at a low pressure in the Southern hemisphere. (2)
- 2.1.3 Coriolis force deflects wind to the (*right/left*) in the Northern hemisphere. (2)
- 2.1.4 A geostrophic wind moves (*parallel/diagonal*) to the isobars. (2)
- 2.1.5 A monsoon wind blow from the ocean to the land in (*winter/summer*). (2)
- 2.1.6 The erosion of a river towards its source is known as (*headward erosion/lateral erosion*). (2)
- 2.1.7 The (*floodplain/pediplain*) is the eroded base level of a Karoo Landscape. (2)
- 2.1.8 The bubbling flow of water in a river is called (*laminar flow/turbulent flow*). (2)
- 2.1.9 A stream in which there is more deposition than erosion is (*overgraded/undergraded*). (2)
- 2.1.10 A (*laccolith/lopolith*) is a saucer-shaped intrusion of massive igneous rock. (2)

- 2.2 FIGURE 2.2 depicts tropical cyclones. Study the diagram and answer the following questions.
- 2.2.1 State the hemisphere in which the tropical cyclone is found. (1 x 2) (2)
- 2.2.2 In which general direction do these storms move? Substantiate your answer. (2 x 2) (4)
- 2.2.3 Refer to the centre of the cyclone to answer the following questions:
- (a) What is the centre of the storm called? (1 x 2) (2)
- (b) Explain why it is windless and cloud-free in the centre of the storm. (1 x 2) (2)
- (c) Describe the air pressure at the centre of the storm. (1 x 2) (2)
- 2.2.4 State THREE conditions which favour the development of tropical cyclones. (3 x 2) (6)
- 2.2.5 Assess the impact of a tropical cyclone on the following:
- (a) The environment (1 x 2) (2)
- (b) The economy (2 x 2) (4)
- 2.3 Study the graph (FIGURE 2.3) that shows the smoke concentration over the city of Tshwane for a period of 24 hours during winter and answer the questions that follow.
- 2.3.1 At what time is the smoke concentration the highest? Give a possible reason for your answer. (2 + 2) (4)
- 2.3.2 At what time is the smoke concentration the lowest? Give a reason for your answer. (2 + 2) (4)
- 2.3.3 How will the smoke created by factories increase the temperature over Tshwane? (2 x 2) (4)
- 2.3.4 Why will the temperature in the centre of Tshwane differ from the temperature in Faerie Glen? (A suburb about 10 km from the city centre.) (1 x 2) (2)
- 2.3.5 What health problems do the people who work in the centre of Tshwane experience as a result of pollution? (2 x 1) (2)

- 2.4 Study FIGURE 2.4(A) and FIGURE 2.4(B) depicting drainage basins and drainage patterns to answer the following questions.
- 2.4.1 Name the drainage patterns labelled **P**, **Q** and **R** in FIGURE 2.4(A).  
(3 x 1) (3)
- 2.4.2 State the underlying rock structure associated with drainage pattern **P** and explain why this rock type resulted in this stream pattern.  
(1 + 2) (3)
- 2.4.3 How many drainage basins are there in diagram **E**?  
(1 x 2) (2)
- 2.4.4 Which tributary, 1 or 2 (in diagram **D**), shows a higher drainage density?  
(1 x 2) (2)
- 2.4.5 State TWO factors which could cause a stream to have a very low drainage density.  
(2 x 2) (4)
- 2.4.6 What effect will a high rainfall at **X** have on the river at point 3 in diagram **D**?  
(1 x 2) (2)
- 2.5 Study FIGURE 2.5 which shows a meandering stream and answer the following questions.
- 2.5.1 Identify the river pattern in **X**.  
(1 x 1) (1)
- 2.5.2 Which course of the river is shown in **X**? Give a reason for your answer.  
(1 + 1) (2)
- 2.5.3 Identify the slopes (1 or 2) of the meandering stream in diagram **X** where:
- (a) erosion takes place.  
(1 x 1) (1)
- (b) deposition takes place.  
(1 x 1) (1)
- 2.5.4 Identify from the labelled arrows (3 or 4) where the river flows fastest. Give a reason for your choice.  
(2 x 1) (2)
- 2.5.5 Match the labelled sections of the river (**A-A**; **B-B** and **C-C**) to the cross profiles (1, 2 and 3) as shown in diagram **Y**.  
(3 x 1) (3)
- 2.6 Refer to FIGURE 2.6 depicting mass movements to answer the following questions.
- 2.6.1 State the type of mass movement depicted in the diagram.  
(1 x 2) (2)
- 2.6.2 Refer to the diagram and name TWO factors that caused the mass movement mentioned in QUESTION 2.6.1.  
(2 x 2) (4)
- 2.6.3 Describe TWO methods to minimise the effects of the above-mentioned mass movement.  
(2 x 2) (4)
- 2.6.4 Discuss any TWO effects of the mass movement in QUESTION 2.6.1 on humans and the environment.  
(2 x 2) (4)

**SECTION B: PEOPLE AND PLACES, PEOPLE AND THEIR NEEDS, WATER AND FOOD SECURITY**

Answer at least ONE question from this section.

**QUESTION 3**

3.1 Various options are provided as possible answers to the following questions. Choose the correct answer and write the letter (A – D) next to the question number (3.1.1 – 3.1.10), for example 3.1.11 B.

3.1.1 Physical growth of a town or city is called ...

- A urban expansion
- B urban growth
- C urbanisation
- D urban sprawl (2)

3.1.2 Urban development along transport routes is known as:

- A Urban expansion
- B Urban sprawl
- C Urban ribbon development
- D Urban hierarchy (2)

3.1.3 The side view of a city is referred to as:

- A Urban morphology
- B Urban profile
- C Urban expansion
- D Urban sprawl (2)

3.1.4 To return land to people that were forced out during the apartheid era is called:

- A Land redistribution
- B Land restitution
- C Land tenure reforms
- D Land-use forms (2)

3.1.5 When many farmsteads are situated around a pond, such settlements form a ... settlement.

- A rural
- B dispersed
- C urban
- D nucleated (2)

- 3.1.6 Industries that process and manufacture with metals and minerals found in their close proximity are known as:
- A Heavy industries
  - B Raw material industries
  - C Light industries
  - D Bridge industries
- (2)
- 3.1.7 The water project that transfers water from the upper Orange River Basin in Lesotho to the Vaal River is known as the ...
- A Tugela-Vaal project.
  - B Orange-Vaal River project.
  - C Lesotho Highland project.
  - D Palmiet-Vaal River project.
- (2)
- 3.1.8 The main harbour through which iron ore is exported is ...
- A Durban.
  - B Port Elizabeth.
  - C Richards Bay.
  - D Saldanha Bay.
- (2)
- 3.1.9 Foods that are produced from plants that have been developed from foreign genes to increase yields and resist pests is known as ...
- A indigenous crops.
  - B cash crops.
  - C genetically modified foods.
  - D alien plant foods.
- (2)
- 3.1.10 South Africa has a dual agricultural economy which consists of ...
- A extensive and intensive farming.
  - B commercial and subsistence farming.
  - C livestock and crop farming.
  - D rotation and irrigation farming.
- (2)

- 3.2 Refer to FIGURE 3.2 showing a river valley situated at 28° south and answer the following questions.
- 3.2.1 Identify the rural settlement pattern found at **A** and **B** respectively. (2 x 1) (2)
- 3.2.2 Give TWO examples of subsistence farming practised in this area. (2 x 1) (2)
- 3.2.3 Name ONE social and ONE economic advantage enjoyed by people living in settlement A. (2 x 2) (4)
- 3.2.4 Explain how the angle of the sun's rays affects settlement A. (2 x 2) (4)
- 3.2.5 The river valley is experiencing soil erosion. State TWO factors that have increased the rate of soil erosion. (2 x 1) (2)
- 3.2.6 Suggest any TWO factors that will favour cultivation at **C**. (2 x 2) (4)
- 3.3 Study FIGURE 3.3 showing the land use of a city and answer the following questions.
- 3.3.1 The city has numerous outlying shopping centres. Suggest TWO advantages enjoyed by these areas over the CBD labelled **B**. (2 x 2) (4)
- 3.3.2 Describe the shape of the city. (1 x 2) (2)
- 3.3.3 Which urban land-use model does this city resemble? (1 x 1) (1)
- 3.3.4 Name the land-use zone found at **A**. (1 x 1) (1)
- 3.3.5 Area D is a new high-income residential area. Explain ONE factor favouring its location. (1 x 2) (2)
- 3.3.6 Area C is an industrial estate (grouping of industries/industrial park). Write a paragraph (approximately 12 lines) to describe the factors that favoured the location of the industries at **C** and also suggest problems likely to be experienced in this area. (6 x 2) (12)

- 3.4 Read the information provided by the Northern Cape Department of Agriculture about its food security support programme (FIGURE 3.4) and answer the following questions.
- 3.4.1 Define *food security*. (1 x 2) (2)
- 3.4.2 Give a reason for the choice of target beneficiaries of the programme. (2 x 2) (4)
- 3.4.3 Describe the TWO main ways in which this programme aims to prevent or reduce food insecurity. (2 x 2) (4)
- 3.4.4 The lack of water contributes to food insecurity in the Northern Cape. Suggest TWO ways in which the water shortage can be addressed. (3 x 1) (3)
- 3.5 Study the graph (FIGURE 3.5) showing the unemployment figures for South Africa for the years 2001 to 2008 to answer the following questions.
- 3.5.1 In which year was the unemployment figures the highest? (1 x 2) (2)
- 3.5.2 State ONE reason for the low unemployment figures during 2008. (1 x 2) (2)
- 3.5.3 The unemployed will find a means to sustain themselves and their families in the informal employment sector. Explain the concept *informal employment sector*. (1 x 2) (2)
- 3.5.4 Can the informal employment sector provide a permanent solution to unemployment? Give a reason for your answer. (1 + 2) (3)
- 3.5.5 Give TWO examples of jobs in the informal employment sector. (2 x 1) (2)
- 3.6 Study the extract (FIGURE 3.6) and answer the following questions.
- 3.6.1 State TWO of South Africa's water resources. (2 x 1) (2)
- 3.6.2 List TWO factors that have led to an increased demand for water resources in South Africa. (2 x 1) (2)
- 3.6.3 Write a paragraph (approximately 12 lines) to discuss reasons for the water shortages in South Africa and suggest sustainable ways to manage the country's water resources. (6 x 2) (12)
- [100]**

**QUESTION 4**

- 4.1 Choose the concept/term from the list below to match the description provided. Write only the concept/term next to the question number (1.4.1 – 1.4.10), for example 1.4.11 Primary.

LIST OF CONCEPTS/WORDS			
Stellar	Wet point	Threshold population	Location
Break-of bulk point	Balance of payment	Brownfield sites	
Import substitution	Linear	Socio-economic injustice	
Multinational corporation	Industrial development corporation		
Dry point	Range	Rural development	Site
Balance of trade	Greenfield sites	Gap town	Free trade

- |        |  |     |
|--------|--|-----|
| 4.1.1  | A settlement located close to a permanent source of water  | (2) |
| 4.1.2  | The shape of a rural settlement built along the banks of a river   | (2) |
| 4.1.3  | A settlement where one mode of transport is replaced by another  | (2) |
| 4.1.4  | The maximum distance a person is willing to travel to a service establishment                            | (2) |
| 4.1.5  | The exact piece of land on which a settlement is located   | (2) |
| 4.1.6  | The financial statement showing the value of a country's transactions with the rest of the world         | (2) |
| 4.1.7  | New sites for industrial development situated in the rural-urban fringe                                  | (2) |
| 4.1.8  | The replacement of goods which were previously imported with locally produced goods                      | (2) |
| 4.1.9  | When all people do not have equal access to facilities, services and resources within a particular place | (2) |
| 4.1.10 | Large companies with branches that operate in several countries  | (2) |

- 4.2 Refer to FIGURE 4.2 showing a rural settlement 30 km outside Ladysmith in KwaZulu-Natal and answer the following questions.
- 4.2.1 Explain how relief influenced the siting of the settlement. (1 x 2) (2)
- 4.2.2 Give ONE other reason why people live in rural areas, besides farming. (1 x 2) (2)
- 4.2.3 A farmer wishes to convert part of his farmland into a bed-and-breakfast establishment. State ONE advantage and ONE disadvantage that this change in land-use will have on the settlement. (2 x 2) (4)
- 4.2.4 Write a paragraph (approximately 12 lines) and predict the effect that cattle diseases and veldfires will have on the economy of the settlement and suggest ways in which the government can assist farmers who have been affected by cattle diseases and veldfires. (6 x 2) (12)
- 4.3 Study FIGURE 4.3 showing an urban profile and answer the following questions.
- 4.3.1 Name the land-use zone labelled A. (1 x 2) (2)
- 4.3.2 State TWO characteristics of zone A evident on the diagram. (2 x 2) (4)
- 4.3.3 Give the term used to describe the movement of commercial functions away from area A. (1 x 2) (2)
- 4.3.4 Assess the impact of this trend (refer to your answer in QUESTION 4.3.3) on the sphere of influence of land-use in zone A. (1 x 2) (2)
- 4.3.5 Area B is the transitional zone. Give ONE other term used to describe this zone. (1 x 2) (2)
- 4.3.6 Briefly describe the urban environment at B. (2 x 2) (4)
- 4.3.7 With reference to urban planning, suggest a possible reason for the condition of area B. (1 x 2) (2)
- 4.3.8 A greenbelt is found at C. Suggest the role played by the green belt to improve the urban environment. (1 x 2) (2)

- 4.4 Study the table (FIGURE 4.4) which shows that contribution to the GDP in 2009 in South Africa to answer the following questions.
- 4.4.1 Which economic activity contributed the most to the GDP in 2009?  
Give TWO reasons to support your answer. (2 + 2 x 2) (6)
- 4.4.2 Which economic activity contributed the least to GDP in 2009?  
(1 x 2) (2)
- 4.4.3 Explain why the agriculture, forestry and fishing activities are of great economic importance for South Africa. (2 x 2) (4)
- 4.4.4 Write a paragraph (approximately 12 lines) and discuss how socio-economic factors promote and limit the manufacturing sector in South Africa. (6 x 2) (12)
- 4.5 Read the extract (FIGURE 4.5) and answer the following questions.
- 4.5.1 Describe the aim of the *Proudly South African* campaign. (1 x 2) (2)
- 4.5.2 Name TWO advantages of the *Proudly South African* campaign for the country. (2 x 2) (4)
- 4.5.3 What are the negative effects of globalisation that the *Proudly South African* campaign aims to address? (2 x 2) (4)
- 4.5.4 What are the advantages of globalisation for South Africa? (2 x 2) (4)
- 4.5.5 For a company or a product to qualify for the *Proudly South African* logo, it has to meet certain criteria. State ONE of these criteria. (1 x 2) (2)
- [100]**

**GRAND TOTAL: 300**

