



# basic education

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Department:  
Basic Education  
**REPUBLIC OF SOUTH AFRICA**

## **NATIONAL SENIOR CERTIFICATE**

**GRADE 12**

**GEOGRAPHY P1**

**NOVEMBER 2015**

**MARKS: 225**

**TIME: 3 hours**

**This question paper consists of 13 pages and an 11-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. ENCIRCLE the question numbers of the questions that you have answered on the front cover of the ANSWER BOOK.
9. Do NOT write in the margins of the ANSWER BOOK.
10. Illustrate your answers with labelled diagrams, where possible.
11. Write neatly and legibly.

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

Answer at least ONE question in this section. If you answer ONE question in SECTION A, you must answer TWO questions in SECTION B.

**QUESTION 1**

1.1 Refer to FIGURE 1.1, which shows the position of anticyclones over South Africa. Indicate whether each of the statements below refers to anticyclone **A**, **B** or **C**. Write only the letter (**A**, **B** or **C**) next to the question number (1.1.1–1.1.7) in the ANSWER BOOK.

1.1.1 The subsiding air causes semi-arid conditions on the West Coast of South Africa.

1.1.2 In summer this pressure cell is found at a higher altitude due to surface heating.

1.1.3 The subsiding air forms an inversion layer in winter that prevents moist air from reaching the interior.

1.1.4 The ridging of this pressure cell results in rainfall over the South-western Cape.

1.1.5 Interaction with a coastal low results in berg wind conditions.

1.1.6 Sometimes this pressure cell is known as a blocking high when it is in the path of a mid-latitude cyclone.

1.1.7 This pressure cell is generally associated with fog and reduced visibility. (7 x 1) (7)

1.2 Refer to the drainage basin and its profile in FIGURE 1.2 and answer the questions that follow.

1.2.1 Name ONE source of water for drainage basin **A**.

1.2.2 Give a term that best describes **B**.

1.2.3 Name the stream order at point **C**.

1.2.4 Name a fluvial feature that is likely to form at point **D** in the river.

1.2.5 Name the process that gave rise to alluvium being found at point **E**.

1.2.6 Give a term that describes the movement of water at **F**.

1.2.7 Give the term that describes the high-lying area surrounding drainage basin **A**.

1.2.8 Give the term that describes the lowest point to which a river erodes. (8 x 1) (8)

- 1.3 Study FIGURE 1.3 on valley climates and answer the questions that follow.
- 1.3.1 Name wind **1** in sketch **A**. (1 x 1) (1)
- 1.3.2 State ONE difference between winds **1** and **2**. (1 x 2) (2)
- 1.3.3 Would wind **1** or wind **2** originate if a higher pressure occurred at the top of the valley slope? Give a reason for your answer. (2 x 2) (4)
- 1.3.4 Explain why visibility on the valley floor (**3**) is less on winter mornings. Draw a labelled diagram to support your answer. (4 x 2) (8)
- 1.4 Study FIGURE 1.4, which shows a cross-section of a cold front, and answer the questions that follow.
- 1.4.1 Give ONE point of evidence that **A** shows a cross-section of a cold front. (1 x 1) (1)
- 1.4.2 Why do cumulonimbus clouds develop along front **A**? (1 x 2) (2)
- 1.4.3 Once the cold front passes over, air pressure will increase. Explain why this is the case. (2 x 2) (4)
- 1.4.4 With reference to the diagram in FIGURE 1.4, write a paragraph of approximately EIGHT lines in which you explain the development of a cold front occlusion. (4 x 2) (8)
- 1.5 Refer to FIGURE 1.5 and answer the questions that follow. Photograph **A** shows an episodic river in the north-western part of South Africa. Photograph **B** shows a permanent river in the same area.
- 1.5.1 (a) What is an *episodic river*? (1 x 1) (1)
- (b) Give evidence from the photograph to support your answer to QUESTION 1.5.1(a). (1 x 1) (1)
- (c) State TWO physical factors that will influence the discharge (stream flow) of this river. (2 x 2) (4)
- 1.5.2 (a) What do you call a permanent river that flows through dry areas? (1 x 2) (2)
- (b) Explain why the river in QUESTION 1.5.2(a) flows throughout the year. (2 x 2) (4)
- (c) State ONE advantage of this river for farmers in the north-western part of South Africa. (1 x 2) (2)

- 1.6 Read the newspaper article with the heading 'Vaal River Under Pressure' in FIGURE 1.6 and answer the questions that follow.
- 1.6.1 Name TWO provinces that are dependent on the Vaal River as a water source. (2 x 1) (2)
- 1.6.2 Give TWO possible reasons why the Vaal River is becoming increasingly toxic/poisoned. (2 x 1) (2)
- 1.6.3 According to the article, water is pumped into the Vaal River to dilute/reduce the pollution. Explain why this is not a sustainable solution. (2 x 2) (4)
- 1.6.4 Explain, in a paragraph of approximately EIGHT lines, why the cost of food and electricity could increase in future if pollution of the Vaal River is not controlled. (4 x 2) (8)
- [75]**

## QUESTION 2

- 2.1 Refer to FIGURE 2.1, showing berg wind conditions. Choose the correct word(s) from those given in brackets. Write only the word(s) next to the question number (2.1.1–2.1.8) in the ANSWER BOOK.
- 2.1.1 Berg wind conditions occur during (summer/winter).
- 2.1.2 Pressure cell **A** is the (Kalahari/South Atlantic) high-pressure cell.
- 2.1.3 Pressure cell **B** is a (thermal/coastal) low-pressure cell.
- 2.1.4 The general direction of movement of the frontal depression is (eastwards/westwards).
- 2.1.5 Durban will experience (onshore/offshore) winds.
- 2.1.6 The cloud cover at Durban will be (overcast/clear) due to the winds identified in QUESTION 2.1.5.
- 2.1.7 (Onshore/Offshore) winds are associated with fog and light rain.
- 2.1.8 The risk of veld fires during berg wind conditions (increases/decreases) in the eastern parts of South Africa. (8 x 1) (8)

- 2.2 Refer to FIGURE 2.2, showing the drainage density of two drainage basins of the same size. Indicate whether each of the descriptions below refers to drainage basin **A** or drainage basin **B**. Write only the letter (**A** or **B**) next to the question number (2.2.1–2.2.7) in the ANSWER BOOK.
- 2.2.1 Dense vegetation cover that prevents surface run-off
- 2.2.2 A drainage basin that experiences high rainfall
- 2.2.3 A drainage basin that has mainly clay soils
- 2.2.4 A drainage basin that has mainly permeable rock
- 2.2.5 A river that flows through hilly areas
- 2.2.6 A drainage basin that has porous rock with sandy soils
- 2.2.7 A river that flows through gently sloping land (7 x 1) (7)
- 2.3 Study the cyclone in FIGURE 2.3 and answer the questions that follow.
- 2.3.1 Give evidence to indicate that the sketch shows a cyclone in the Northern Hemisphere. (1 x 1) (1)
- 2.3.2 Name the section of the moving cyclone where the highest wind speeds are recorded. (1 x 1) (1)
- 2.3.3 Give ONE reason why the descending (sinking) air in the eye is dry. (1 x 2) (2)
- 2.3.4 Explain why satellite images are effective for tracking cyclones. (2 x 2) (4)
- 2.3.5 Write a paragraph of approximately EIGHT lines to outline the economic and environmental impact of cyclones such as the one in FIGURE 2.3. (4 x 2) (8)
- 2.4 Refer to FIGURE 2.4, showing the difference in temperature between the CBD and the surrounding rural area of a South African city, and answer the questions that follow.
- 2.4.1 Calculate the difference in temperature between the CBD and the rural area. (1 x 1) (1)
- 2.4.2 Give a term that describes this difference in temperature between the CBD and the rural area. (1 x 1) (1)
- 2.4.3 Discuss how building density contributes to the CBD having higher temperatures. (2 x 2) (4)
- 2.4.4 Draw a labelled diagram showing the structure of the urban heat island during the day for FIGURE 2.4. (2 x 2) (4)
- 2.4.5 Give TWO sustainable solutions to reduce the temperature in the CBD. (2 x 2) (4)

- 2.5 Refer to FIGURE 2.5, which illustrates factors that could influence the amount of ground water in the soil, and answer the questions that follow.
- 2.5.1 Define the term *ground water*. (1 x 1) (1)
- 2.5.2 Differentiate between the terms *infiltration* and *run-off*. (2 x 1) (2)
- 2.5.3 What role does ground water play in the discharge (stream flow) of a permanent river during the dry season? (1 x 2) (2)
- 2.5.4 What effect would the construction of the well have on the water table? (1 x 2) (2)
- 2.5.5 Explain, in a paragraph of approximately EIGHT lines, FOUR natural factors that can cause the water-table level to rise. (4 x 2) (8)
- 2.6 Study FIGURE 2.6, illustrating drainage patterns and landscapes, and answer the questions that follow.
- 2.6.1 Indicate whether each drainage pattern, **A**, **B** and **C**, refers to landscape **1**, **2** or **3**, on which it is likely to develop. (3 x 1) (3)
- 2.6.2 Name ONE factor that results in different drainage patterns forming. (1 x 2) (2)
- 2.6.3 State ONE characteristic of drainage pattern **B**. (1 x 2) (2)
- 2.6.4 Describe the rock type and underlying structure associated with drainage pattern **C**. (2 x 2) (4)
- 2.6.5 Why do the tributaries in landscape **3** join the main stream at a 90° angle? (2 x 2) (4)
- [75]**

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

Answer at least ONE question in this section. If you answer ONE question in SECTION B, you must answer TWO questions in SECTION A.

**QUESTION 3**

- 3.1 Give ONE word/term for each of the following descriptions by choosing a word/term from the list below. Write only the word/term next to the question number (3.1.1–3.1.7) in the ANSWER BOOK. You may use the same term more than once.

residential zone; light industrial zone; recreational zone; transitional zone;  
heavy industrial zone; rural-urban fringe; CBD

- 3.1.1 The zone on the outskirts of the urban area associated with high pollution levels
- 3.1.2 The zone that the CBD expands into
- 3.1.3 A zone of mixed functions surrounding the CBD
- 3.1.4 The highest land value of all land-use zones
- 3.1.5 A land-use zone with factories that produce low levels of pollution
- 3.1.6 A zone that is a suitable location for an airport
- 3.1.7 A zone that is associated with golf estates (7 x 1) (7)

3.2 Choose a term from COLUMN B that matches the description in COLUMN A. Write only the letter (A–I) next to the question number (3.2.1–3.2.8) in the ANSWER BOOK, for example 3.2.9 J.

COLUMN A		COLUMN B	
3.2.1	Type of economic activity where a service is rendered	A	formal employment
3.2.2	Total value of goods and services produced in a country over a period of a year, expressed as a percentage	B	trade
3.2.3	Type of employment where people find work for themselves and are not contracted by a business or company	C	informal employment
3.2.4	Import and export relations between two countries	D	Good Hope Plan
3.2.5	Type of employment where people are contracted to work for a business or company	E	quaternary economic activities
3.2.6	Post-apartheid strategy for economic development	F	tertiary economic activities
3.2.7	Economic activities that are concerned with scientific research and the collecting and processing of information	G	SDI (spatial development initiative)
3.2.8	Apartheid strategy for economic development	H	gross domestic product
		I	secondary economic activities

(8 x 1) (8)

3.3 Refer to FIGURE 3.3, showing traffic congestion, and answer the questions that follow.

3.3.1 Define the term *traffic congestion*. (1 x 1) (1)

3.3.2 State ONE negative effect of traffic congestion on the physical environment. (1 x 1) (1)

3.3.3 What is the trend shown by the graph from 1982 to 2010 with regard to the hours of delay per commuter per year? (1 x 2) (2)

3.3.4 Give a possible reason for your answer to QUESTION 3.3.3. (1 x 2) (2)

3.3.5 Describe TWO negative effects that this delay may have on commuters. (2 x 2) (4)

3.3.6 Suggest TWO possible ways in which traffic congestion in urban areas can be reduced. (2 x 2) (4)

- 3.4 Refer to FIGURE 3.4, an extract from a newspaper article on an informal settlement in the Western Cape, and answer the questions that follow.
- 3.4.1 Name ONE basic service mentioned in the newspaper article that the informal settlement has a shortage of. (1 x 1) (1)
- 3.4.2 Why is there an increasing number of informal settlements in the Western Cape? (1 x 1) (1)
- 3.4.3 Name ONE cause of soil erosion in Tsakane Extension Six. (1 x 2) (2)
- 3.4.4 Explain why it is difficult to provide assistance when there is an emergency in Tsakane Extension Six. (2 x 2) (4)
- 3.4.5 In a paragraph of approximately EIGHT lines, give sustainable solutions to improve the living conditions of people living in Tsakane Extension Six. (4 x 2) (8)
- 3.5 Refer to FIGURE 3.5, showing a market-orientated secondary economic activity, and answer the questions that follow.
- 3.5.1 Define the term *secondary economic activity*. (1 x 1) (1)
- 3.5.2 What is a *market-orientated industry*? (1 x 1) (1)
- 3.5.3 Why is this bakery market orientated? (1 x 2) (2)
- 3.5.4 State TWO characteristics of the bakery that make it a light industry. (2 x 2) (4)
- 3.5.5 Discuss TWO factors that are likely to influence production costs at this bakery. (2 x 2) (4)
- 3.5.6 Explain the economic importance of light industries for the economy of South Africa. (2 x 2) (4)
- 3.6 On national level, 45,6% or approximately two out of four households in South Africa are food secure.
- 3.6.1 Define the term *food security*. (1 x 1) (1)
- 3.6.2 Give the percentage of the South African population that is food insecure. (1 x 1) (1)
- 3.6.3 Discuss TWO natural factors that contribute to food insecurity. (2 x 2) (4)
- 3.6.4 Write a paragraph of approximately EIGHT lines in which you propose measures that can be put in place to improve food security in South Africa. (4 x 2) (8)

**[75]**

**QUESTION 4**

4.1 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 number (4.1.1–4.1.8) in the ANSWER BOOK, for example 4.1.9 E.

4.1.1 The smallest nucleated settlement is called a/an ...

- A hamlet.
- B isolated farmstead.
- C town.
- D conurbation.

4.1.2 The distance people are prepared to travel to use a service is referred to as the ...

- A sphere of influence.
- B range.
- C ranking of services.
- D threshold population.

4.1.3 The movement of people away from the city into the rural areas is known as ...

- A urbanisation.
- B rural-urban migration.
- C rural depopulation.
- D counter-urbanisation.

4.1.4 An urban hierarchy classifies a settlement according to ...

- A size.
- B complexity.
- C function.
- D pattern.

4.1.5 Break-of-bulk points are settlements that ...

- A develop where one mode of transport is changed for another.
- B originate where there are physical barriers such as mountains.
- C specialise in one dominant function.
- D provide goods and services to the surrounding rural areas.

4.1.6 Suburban businesses are becoming more popular because they are ...

- A located in the CBD.
- B subjected to urban blight.
- C located close to heavy industrial zones.
- D more accessible.

- 4.1.7 The largest highly urbanised area made up of several cities which are merged into one continuous built-up area is known as a ...
- A conurbation.  
B metropolis.  
C megalopolis.  
D megacity.
- 4.1.8 Businesses located along the main roads leading to the CBD, with a constant flow of traffic, are known as ...
- A isolated store clusters.  
B commercial ribbon developments.  
C planned shopping centres.  
D regional shopping centres. (8 x 1) (8)
- 4.2 Refer to FIGURE 4.2, showing economic activities in two countries. Indicate whether each of the descriptions below refers to the pie charts of economic activities in country **A** or country **B**. Write only the letter (**A** or **B**) next to the question number (4.2.1–4.2.7) in the ANSWER BOOK.
- 4.2.1 Most people employed in service delivery
- 4.2.2 Most people employed in farming activities
- 4.2.3 Has the largest manufacturing sector
- 4.2.4 More economically developed country
- 4.2.5 Country with the lowest GDP
- 4.2.6 Country with the largest number of skilled workers
- 4.2.7 Country with the greatest potential for economic growth (7 x 1) (7)
- 4.3 Refer to FIGURE 4.3, which shows characteristics of rural depopulation.
- 4.3.1 Define the term *rural depopulation*. (1 x 1) (1)
- 4.3.2 Which age group is the first to migrate to cities? (1 x 1) (1)
- 4.3.3 State ONE characteristic of a ghost town. (1 x 2) (2)
- 4.3.4 Give TWO reasons why stagnation (no growth) occurs in rural towns. (2 x 2) (4)
- 4.3.5 Write a paragraph of approximately EIGHT lines in which you make suggestions on how this cycle of stagnation can be broken. (4 x 2) (8)

- 4.4 Read the extract from the *International Business Times* on urban renewal in South Africa in FIGURE 4.4 carefully before answering the questions.
- 4.4.1 What is meant by the term *urban renewal*? (1 x 1) (1)
- 4.4.2 Give the name of the land-use zone referred to in this article, where many homeless people live in old buildings. (1 x 1) (1)
- 4.4.3 Why would an arts mecca like Maboneng be considered an example of an urban renewal strategy? (1 x 2) (2)
- 4.4.4 Discuss THREE negative effects of urban renewal on the urban poor. (3 x 2) (6)
- 4.4.5 Explain the positive effect of urban renewal on tourism. (2 x 2) (4)
- 4.5 Study FIGURE 4.5 based on cattle farming and answer the questions that follow.
- 4.5.1 Why, according to the article, is South Africa's beef production not at the same level as that of other countries? (1 x 1) (1)
- 4.5.2 Why is there a need to increase beef production in future? (1 x 1) (1)
- 4.5.3 Why does South Africa have such a large informal cattle farming sector? (1 x 2) (2)
- 4.5.4 Suggest TWO ways in which the South African government can assist informal cattle farmers to improve their productivity levels. (2 x 2) (4)
- 4.5.5 State TWO environmental concerns associated with cattle farming. (2 x 2) (4)
- 4.5.6 Besides being a source of food, give ONE other reason why the beef industry is important to the South African economy. (1 x 2) (2)
- 4.6 Study FIGURE 4.6 showing a map of economic development in the Eastern Cape. Answer the questions that follow.
- 4.6.1 The industrial region of the Eastern Cape earns about 9% of the total earnings in South Africa.
- (a) Name any TWO industries that the Eastern Cape economic region is famous for. (2 x 1) (2)
- (b) State TWO factors favouring the location of the Eastern Cape industrial region. (2 x 2) (4)
- (c) Give ONE reason why the Eastern Cape economic region contributes the least to the total earnings of South Africa. (1 x 2) (2)
- 4.6.2 Evaluate the role of the Wild Coast SDI in the economic upliftment of people living in the Eastern Cape. (4 x 2) (8)
- TOTAL: 225**

**[75]**