



Province of the
EASTERN CAPE
EDUCATION

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

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GEOGRAPHY P1

MARKS: 225

TIME: 3 hours



This question paper consists of 16 pages and a 9 page annexure.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of four questions.
2. Answer any THREE questions of 75 marks each for a total of 225 marks.
3. All diagrams are included in the ANNEXURE.
4. Leave a line between subsections of questions answered.
5. Start EACH question on a NEW page.
6. Number the questions correctly according to the numbering system used in this question paper
7. Do NOT write in the margins of the ANSWER BOOK.
8. Where possible, illustrate your answer with labelled diagrams.
9. Write neatly and legibly.

SECTION A: CLIMATE, WEATHER AND GEOMORPHOLOGY

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

QUESTION 1

- 1.1 Refer to FIGURE 1.1 to answer the following multiple-choice questions. Various options are given as possible answers. Choose the correct answer and write only the letter (A–D) next to the question number (1.1.1–1.1.8) in your ANSWER BOOK, for e.g. 1.1.9 B.

1.1.1 FIGURE 1.1 illustrates the ... of microclimate.

- A slope aspect
- B urban climate
- C pollution dome
- D temperature inversion

1.1.2 The approximate altitude of Hillbrow's tallest building is ...

- A 1 800 m.
- B 1 700 m.
- C 1 900 m.
- D 1 600 m.

1.1.3 The temperature above the city at the point labelled **A** is ...

- A 6 °C.
- B 4 °C.
- C 2 °C.
- D 0 °C.

1.1.4 Lines indicating equal temperature on the diagram are known as ...

- A isobars.
- B contours.
- C isotherms.
- D isohyets.

1.1.5 Temperatures generally ... as we move away from **A** towards the southern suburbs.

- A increases
- B stabilises
- C vacillates
- D decreases

1.1.6 The city centre experiences ...

- A less rain and hail.
- B more pollution and lower relative humidity.
- C less fog and higher relative humidity.
- D pollution and higher relative humidity.

1.1.7 During the day the heat island ...

- A is dome shaped and pollutants are more concentrated.
- B is closer to the surface.
- C has a greater vertical dimension and pollutants are dispersed.
- D is not evident.

1.1.8 Rural areas have ... than urban areas.

- A less pollution and dust particles
- B more hygroscopic nuclei and more rain
- C less hygroscopic nuclei and less clouds
- D more pollution and dust particles

(8 x 1) (8)

1.2 Select a term from the list below to match the statements that follow. Write only the correct term next to the question number (1.2.1–1.2.7) in the ANSWER BOOK, for e.g. 1.2.8 Geomorphology.

Water table; Alluvium; Base flow; Laminar flow; Catchment area;
River mouth; Tributary; Confluence; Ground water; Source; Discharge

1.2.1 The drainage area that supplies water to a river

1.2.2 Occurs when the river bed is even and gently sloping

1.2.3 Water found within the earth's surface

1.2.4 Point at which a river empties its water into a large body of water

1.2.5 The height at which water is found below the surface

1.2.6 A fine mineral-rich soil deposited by rivers

1.2.7 A measure of the volume of water that flows in a river at a particular point (7 x 1) (7)

- 1.3 Read through the newspaper article titled '*Icy conditions as mercury falls*' in FIGURE 1.3 and answer the following questions.
- 1.3.1 How does a *cold front* originate? (1 x 1) (1)
- 1.3.2 Why is the cold front signalling the start of winter? (1 x 1) (1)
- 1.3.3 Draw and label a cross-section through a cold front. (3 x 1) (3)
- 1.3.4 State why cold fronts are not so prevalent in South Africa during the summer months. (1 x 2) (2)
- 1.3.5 Evaluate in a paragraph of approximately 8 lines the impact that the approaching cold fronts would have on the fishing industry of the South-Western Cape. (4 x 2) (8)
- 1.4 Study the synoptic weather map in FIGURE 1.4 and answer the following questions.
- 1.4.1 Name the high pressure cells at **C** and **D** respectively. (2 x 1) (2)
- 1.4.2 Determine the isobar interval used on the weather map. (1 x 1) (1)
- 1.4.3 Interpret how the high pressure at **D** influences the air flow patterns in area **A**. (1 x 2) (2)
- 1.4.4 Identify the front at **B** along which line thunderstorms will form. (1 x 1) (1)
- 1.4.5 Classify line thunderstorms as either typically **frontal** or **convective** thunderstorms. (1 x 1) (1)
- 1.4.6 Deduce how line thunderstorms are formed by using the information available on the synoptic weather map. (3 x 2) (6)
- 1.4.7 What is the importance of line thunderstorms for farmers in the interior of South Africa? (2 x 1) (2)

1.5 Study FIGURE 1.5 depicting different drainage basins and answer the questions that follow.

- 1.5.1 Define the term *drainage density*. (1 x 1) (1)
- 1.5.2 What evidence suggests that river system **A** has the highest density? (1 x 1) (1)
- 1.5.3 Discuss TWO factors that would have contributed to this high density (Your answer to QUESTION 1.5.2). (2 x 2) (4)
- 1.5.4 Differentiate between the tributaries of river system **A** and **B**. (2 x 2) (4)
- 1.5.5 Explain how the underlying rock structure would have influenced the formation of the stream pattern at **B**. (2 x 2) (4)

1.6 Study FIGURE 1.6, which illustrates the concept of river capture (stream piracy) and answer the questions that follow.

- 1.6.1 Name the type of erosion that gives rise to river capture. (1 x 1) (1)
- 1.6.2 Name the resultant stream **Y** after stream capture has taken place. (1 x 1) (1)
- 1.6.3 Discuss the role that gradient would have played in promoting river capture. (1 x 2) (2)
- 1.6.4 Why does river rejuvenation generally occur after river capture? (2 x 2) (4)
- 1.6.5 In a paragraph of approximately 8 lines, evaluate the impact that river capture will have on the ecology of the area at **X**. (4 x 2) (8)

[75]

QUESTION 2

- 2.1 Choose the concept from COLUMN B that matches the description in COLUMN A. Write only the letter (A–I) from COLUMN B next to the question number (2.2.1–2.2.7). You may use each answer only ONCE, for example 2.1.8 J.

COLUMN A		COLUMN B
2.1.1	An occlusion when the coldest air is found behind the cold front, and this causes the warm air to be uplifted along the cold front	A Cut-off low
2.1.2	Outward curve of isobars away from a low pressure cell	B Saddle
2.1.3	Warm winds that blow from the interior to the coast in winter	C Trough
2.1.4	A low which has become completely displaced over the land and moves independently of any air currents around it	D Ridge
2.1.5	A small, weakly developed cell with a diameter of 100 km found along the coast	E Cold front occlusion
2.1.6	Occurs in summer over the central interior	F Warm front occlusion
2.1.7	Zone of constant pressure between two pressure systems	G Berg wind
		H Heat low
		I Coastal low

(7 x 1)

(7)

- 2.2 Four options are given as possible answers to the following questions. Choose the correct answer and write only the letter (A–D) next to the question number (2.2.1– 2.2.8) in your answer book, for example 2.2.9 A.

2.2.1 Exotic rivers ...

- A originate in areas of high rainfall but flow through dry areas.
- B flow all year round.
- C are characteristic of arid and semi-arid regions.
- D All of the above

2.2.2 The transverse profile/cross profile of a river ...

- A shows the depth and gradient of a river.
- B shows the upper and lower course of a river.
- C shows the depth and width of a river.
- D shows all dams and lakes on a river.

2.2.3 Natural levees ...

- A are vertical drops along the course of a river.
- B raises the level of the river higher than that of the floodplain.
- C are sections of rough turbulent water.
- D form at the point where the river enters the sea.

2.2.4 Vertical erosion slows down and lateral erosion begins to dominate in the ... of a river.

- A upper course
- B middle course
- C lower course
- D valley

2.2.5 Laminar flow is associated with a ...

- A low rate of erosion.
- B high rate of erosion.
- C high rate of weathering.
- D high rate of erosion and an uneven bed.

2.2.6 A deranged drainage pattern ...

- A is associated with igneous rocks.
- B forms with many joints and faults.
- C forms in areas that are geologically young.
- D forms in areas where volcanoes occur.

2.2.7 A drainage pattern that does not correspond with the structure of the existing surface is ...

- A antecedent.
- B centrifugal.
- C centripetal.
- D superimposed.

2.2.8 The following is NOT a characteristic of turbulent flow.

- A Particles are kept long in suspension
- B Heavy erosive activity
- C Very steep gradient
- D Water flows over an even bed

(8 x 1) (8)

2.3 Read through the newspaper article in FIGURE 2.3 on typhoons/tropical cyclones and answer the following questions.

- 2.3.1 Provide a general description of a *typhoon*. (1 x 1) (1)
- 2.3.2 How many typhoons had occurred during the cyclone season prior to typhoon Haiyan? (1 x 1) (1)
- 2.3.3 "... sustained winds reached 313 km an hour with gusts of up to 378 km an hour."
- (a) Why are typhoons associated with strong winds? (1 x 1) (1)
- (b) Identify the part of the typhoon in which the strongest winds occur. (1 x 1) (1)
- 2.3.4 Name TWO direct consequences mentioned in the article that typhoon Haiyan had on the people of the area. (2 x 1) (2)
- 2.3.5 Evaluate why islands like the Philippines are more likely to experience the full impact of a tropical cyclone compared to mainland interior areas. (2 x 2) (4)
- 2.3.6 In a paragraph of approximately 8 lines explain why less economically developed countries (LEDCs) are more severely affected by typhoons than more economically developed countries (MEDCs). (4 x 2) (8)

2.4 FIGURE 2.4 shows two different types of air movements in a valley.

- 2.4.1 Identify the TWO types of air movements at **A** and **B**. (2 x 1) (2)
- 2.4.2 Account for the change in direction of the air flow at **A** and **B**. (1 x 2) (2)
- 2.4.3 Explain conditions that promote a frost pocket forming at the bottom of the valley in winter. (3 x 2) (6)
- 2.4.4 Suggest strategies that farmers can use to overcome the challenge that frost poses to their crops. (2 x 1) (2)

2.5 Study the sketch (FIGURE 2.5) which shows fluvial processes of a river.

- 2.5.1 Name the stage of the river depicted in FIGURE 2.5. (1 x 1) (1)
- 2.5.2 Identify the type of slope that is found at **Q**. (1 x 1) (1)
- 2.5.3 Why is erosion more likely to take place along slope **P**? (1 x 2) (2)
- 2.5.4 Explain how **X** will eventually form into an oxbow lake. (3 x 1) (3)
- 2.5.5 Provide supporting arguments to discourage settlement and infrastructural development on floodplains. (4 x 2) (8)

2.6 Read through the case study of the Olifants drainage basin in FIGURE 2.6 before answering the following questions.

- | | | | |
|-------|--|---------|-------------|
| 2.6.1 | Define the term <i>drainage basin</i> . | (1 x 1) | (1) |
| 2.6.2 | Why is the Olifants River referred to as 'most stressed'? | (2 x 1) | (2) |
| 2.6.3 | Evaluate how mining activities would affect the quality of water in the Olifants River. | (2 x 2) | (4) |
| 2.6.4 | Write a paragraph of approximately 8 lines in which you suggest possible ways of solving the negative effect of humans on the Olifants drainage basin. | (4 x 2) | (8) |
| | | | [75] |

SECTION B: RURAL AND URBAN SETTLEMENTS AND ECONOMIC GEOGRAPHY OF SOUTH AFRICA

QUESTION 3

- 3.1 Select ONE term from the list provided for each of the descriptions (3.1.1–3.1.8) which follow.

Junction town; Central place; Metropolis; Megalopolis; Break of bulk point; Specialised cities; Conurbation; Gateway towns

- 3.1.1 Settlements that provide goods and services to the surrounding areas
- 3.1.2 A gigantic urban area, known as the largest form of settlement
- 3.1.3 Locations where one mode of transport replaces another
- 3.1.4 Urban settlements that have one dominant function
- 3.1.5 Settlements located at important roads, rivers or railway lines which converge
- 3.1.6 Settlements that have a great deal of nodality
- 3.1.7 A combination of many towns and cities that merge with each other
- 3.1.8 A single city surrounded by dependent towns (8 x 1) (8)

- 3.2 Choose the concept from COLUMN B that matches the descriptions in COLUMN A. Write only the letter (A–H) from COLUMN B next to the question number (3.2.1–3.2.7). You may use the answer ONCE, for example 3.2.9 I.

COLUMN A		COLUMN B	
3.2.1	Large scale industries located on the outskirts of a settlement	A	Ubiquitous
3.2.2	These industries are service orientated and operate through direct marketing.	B	Market orientated
3.2.3	Industries that can be located anywhere and provides services seven days a week	C	Raw material orientated
3.2.4	These industries are located in between the source of raw material and customer	D	Heavy industries
3.2.5	Industries that operate in several countries	E	Bridge
3.2.6	Industries located closer to the customer	F	Footloose
3.2.7	A sugar mill close to a sugar plantation is an example of this type of industry	G	Transnational corporations
		H	Light industries

(7 x 1) (7)

3.3 Refer to FIGURE 3.3 depicting a diagram of rural-urban migration and answer the following questions.

- 3.3.1 What is *rural-urban migration*? (1 x 1) (1)
- 3.3.2 State TWO factors evident in the diagram that draw (pull) rural inhabitants to urban areas. (2 x 1) (2)
- 3.3.3 Rural depopulation also have positive consequences. Justify this statement. (2 x 2) (4)
- 3.3.4 Suppose you are the parents of the young people (in FIGURE 3.3) leaving the rural area. Write a paragraph (approximately 8 lines) outlining sustainable ideas for the government to reduce rural-urban migration. (4 x 2) (8)

3.4 FIGURE 3.4 compares South Africa's recent and predicted urbanisation levels with global trends. Study this table to answer the following questions.

- 3.4.1 Differentiate between the terms '*level*' and '*rate*' of urbanisation. (2 x 1) (2)
- 3.4.2 Name the region (shown in TABLE 3.4) depicting the highest urbanisation level. (1 x 1) (1)
- 3.4.3 Determine the region (Africa or Europe) that demonstrates the lowest rate of urbanisation over the entire period depicted on the table. (1 x 1) (1)
- 3.4.4 Suggest reasons for the increase in counter urbanisation, especially in developed countries (2 x 2) (4)
- 3.4.5 Account for the rapid rate of urbanisation in South Africa between 1995 and 2000. (2 x 2) (4)
- 3.4.6 Explain some of the challenges that have resulted from an increasing level of urbanisation in South Africa. (2 x 2) (4)

3.5 Read through the case study; '*The growth of minibus taxi services in South Africa*' in FIGURE 3.5 and answer the following questions.

- 3.5.1 State from the article ONE reason for the growth of the minibus taxi industry after 1994 in South Africa. (1 x 1) (1)
- 3.5.2 Name the cause of 'taxi wars' in South Africa according to the article. (1 x 1) (1)
- 3.5.3 Part of the minibus taxi business operates as an informal trade. Explain why this is not good for the safety of passengers. (2 x 1) (1)

- 3.5.4 Why are mini-bus taxis popular in developing countries? (2 x 1) (2)
- 3.5.5 State TWO reasons how workers in the mini-bus taxi industry are disempowered. (2 x 1) (2)
- 3.5.6 Suggest TWO measures the government can introduce to avoid conflict arising in the minibus taxi industry. (2 x 2) (4)
- 3.6 FIGURE 3.6 shows key statistics in platinum mining operations between 2010 and 2012. Study this table to answer the following questions.
- 3.6.1 Name the year that recorded the most tons of minerals mined at this platinum mine. (1 x 1) (1)
- 3.6.2 Why are the monetary figures relating to the operation of a South African mine quoted in US dollars? (1 x 2) (2)
- 3.6.3 Using the statistics in FIGURE 3.6, name any TWO reasons why 2012 was a poor year for this platinum mine. (2 x 1) (2)
- 3.6.4 State any TWO social factors that can hinder mining in South Africa. (2 x 2) (4)
- 3.6.5 In a paragraph of approximately 8 lines, discuss the negative physical factors that that affect mining in South Africa. (4 x 2) (8)
- [75]**

QUESTION 4

4.1 The sketches in FIGURE 4.1 depicts rural settlement patterns and shapes. Match the statements below with the sketches in FIGURE 4.1. Write only the correct letter (**A** to **G**) next to the question number (4.1.1–4.1.7), for example 4.1.8 H.

- 4.1.1 A settlement that is located away from water because of the danger of flooding
- 4.1.2 A settlement that is located near the water source
- 4.1.3 A settlement where farmers most likely can experiment and use modern equipment extensively
- 4.1.4 An example of a cross road settlement
- 4.1.5 A settlement that follows a road or river in a linear shape
- 4.1.6 A cultural feature is usually the focal point of these types of rural shapes
- 4.1.7 A settlement where fertile or flatland has caused the nucleated pattern to be irregular (7 x 1) (7)

4.2 Suggest ONE appropriate geographical term in brackets to make each of the following statements TRUE. Write down the question number (4.2.1–4.2.8) and the correct term only.

- 4.2.1 (Agglomeration/Decentralisation) refers to industries that benefit from being located near each other for convenience.
- 4.2.2 Food (insecurity/security) means that individuals, households, communities and nations have access to enough quality food at all times.
- 4.2.3 No barriers to the import and export of goods and services are known as (free trade/fair trade).
- 4.2.4 (Centralisation/Nationalisation) refers to the process when a government takes over the operations and ownership of mines.
- 4.2.5 Restrictions are placed on trade between countries by using tariffs and quotas which is known as (protectionism/regulation).
- 4.2.6 (Trading blocs/Quotas) are groups of countries that have common markets and that agree on favourable trade agreements.
- 4.2.7 The (multiplier/investment) effect occurs when a new or expanding economic activity creates new opportunities for further employment, services and wealth.
- 4.2.8 The part of the economy that covers research and development and (8)

includes high-technology and information services is known as
(tertiary/quaternary) activities. (8 x 1)

4.3 Read through the case study (FIGURE 4.3) on a social justice issue (land reform) and answer the questions that follow.

4.3.1 State the aim of land reform in post-apartheid South Africa. (1 x 1) (1)

4.3.2 What is *land restitution*? (1 x 1) (1)

4.3.3 Write down the reason why Patrick Majapelo is protesting. (1 x 1) (1)

4.3.4 Explain THREE possible reasons why the Department of Land Affairs is unable to help Patrick. (3 x 2) (6)

4.3.5 Suggest TWO ways how the Department of Land Affairs could deal specifically with Patrick's restitution claim. (2 x 2) (4)

4.4 Study FIGURE 4.4, which is a model of a city in a developing country, and answer the following questions.

4.4.1 Identify from FIGURE 4.4 ONE example of land-use in the CBD. (1 x 1) (1)

4.4.2 Suggest TWO examples of services in the area marked **X** which are likely to be of poor quality. (2 x 1) (2)

4.4.3 State TWO reasons why large numbers of people live in squatter settlements in cities like FIGURE 4.4. (2 x 1) (2)

4.4.4 Describe the characteristic of the rural-urban fringe. (2 x 2) (4)

4.4.5 In a paragraph (approximately 8 lines) suggest some methods which can be used by city planners to make this city a more sustainable one. (4 x 2) (8)

4.5 Study FIGURE 4.5 which depicts the core industrial regions of South Africa and answer the questions that follow.

4.5.1 Name the industrial regions labelled **A**, **B**, **C**, and **D**. (4 x 1) (4)

4.5.2 State any TWO disadvantages of industrial centralisation. (2 x 1) (2)

4.5.3 Why is there little heavy industry in region **D** in comparison to the other core industrial regions? (2 x 1) (2)

4.5.4 The industrial region at **A** has been transformed 'from a mining village to an industrial powerhouse'. In a paragraph of approximately 8 lines, substantiate this statement. (4 x 2) (8)

4.6 Study FIGURE 4.6 which is a timeline of pre- and post-apartheid economic development strategies to boost economic development in South Africa.

- | | | | |
|-------|--|---------|-------------|
| 4.6.1 | Name the economic development strategy that was implemented prior to South Africa becoming a democratic country. | (1 x 1) | (1) |
| 4.6.2 | What does the acronym GEAR stands for? | (1 x 1) | (1) |
| 4.6.3 | Name the economic development strategy that had the basic needs philosophy as its focal point. | (1 x 1) | (1) |
| 4.6.4 | Name TWO economic activities that form part of SDI development projects. | (2 x 1) | (2) |
| 4.6.5 | How does infrastructure play a key role in SDIs? | (2 x 1) | (2) |
| 4.6.6 | Name an example of an SDI in the Eastern Cape. | (1 x 1) | (1) |
| 4.6.7 | What is the link between SDIs and the IDZs? | (1 x 2) | (2) |
| 4.6.8 | How did GEAR aim to improve industrial development? | (1 x 2) | (2) |
| 4.6.9 | Name any ONE criticism levelled against SDIs and IDZs. | (1 x 2) | (2) |
| | | | [75] |

TOTAL: 225