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NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY P1

FEBRUARY/MARCH 2017

MARKS: 225

TIME: 3 hours

This question paper consists of 13 pages and a 10-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 the 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 when you have to state, name, identify or list.
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 showing a synoptic weather map of southern Africa. Choose the correct word(s) from those given in brackets. Write only the word(s) next to the question number (1.1.1–1.1.7) in the ANSWER BOOK.

1.1.1 The synoptic weather map data was captured at (12:00/14:00).

1.1.2 The season represented by this synoptic weather map is (summer/winter).

1.1.3 Area **A** on the synoptic weather map is a (ridge/trough).

1.1.4 The weather system associated with the area at **A** creates (stable/unstable) weather conditions.

1.1.5 The wind at weather station **B** is a (NNE/SSW) wind.

1.1.6 The wind speed at weather station **B** is (20/10) knots.

1.1.7 The air pressure at the centre of the South Atlantic anticyclone is (lower/higher) than 1 032 hPa/mb. (7 x 1) (7)

- 1.2 Choose a term from COLUMN B that matches the geomorphological description in COLUMN A. Write only the letter (A–I) next to the question number (1.2.1–1.2.8) in the ANSWER BOOK, for example 1.2.9 J.

COLUMN A		COLUMN B	
1.2.1	Point along a river where two or more streams join together	A	drainage basin
1.2.2	A stream that joins the main river	B	watershed
1.2.3	A high-lying area which separates two streams within the same drainage basin	C	confluence
1.2.4	Entire area drained by a river system	D	source
1.2.5	Hierarchy of streams in a drainage basin	E	interfluvium
1.2.6	High-lying areas that separate river systems into different drainage basins	F	river mouth
1.2.7	Point at which a river flows into the ocean	G	tributary
1.2.8	High-lying area where a river originates	H	stream orders
		I	non-perennial river

(8 x 1)

(8)

- 1.3 FIGURE 1.3 is a three-dimensional representation of a mid-latitude cyclone over the United States of America.
- 1.3.1 Name fronts **A** and **B**. (2 x 1) (2)
- 1.3.2 In what stage of development is this mid-latitude cyclone? (1 x 1) (1)
- 1.3.3 Give evidence in the diagram to prove that this mid-latitude cyclone occurs in the Northern Hemisphere. (1 x 2) (2)
- 1.3.4 Give a reason why front **B** is associated with a greater rainfall extent than front **A**. (1 x 2) (2)
- 1.3.5 Describe the likely weather conditions associated with the cloud type at front **A**. (2 x 2) (4)
- 1.3.6 Discuss TWO expected weather changes that could occur when the mid-latitude cyclone reaches the occlusion stage. (2 x 2) (4)
- 1.4 Study FIGURE 1.4 showing a cartoon on an urban heat island.
- 1.4.1 Complete the statement describing an urban heat island in **A**:
An urban heat island describes the phenomenon where ... (1 x 1) (1)
- 1.4.2 Refer to **B** and give TWO reasons for the heat generated in the city. (2 x 1) (2)
- 1.4.3 What impact will the increased temperatures have on people living in the city? (2 x 2) (4)
- 1.4.4 In a paragraph of approximately EIGHT lines, provide sustainable methods that can be implemented in an attempt to control the temperature in the city. (4 x 2) (8)
- 1.5 FIGURE 1.5 shows the amount of water in a river in the dry season and the rainy season.
- 1.5.1 Name the type of river in the photograph. (1 x 1) (1)
- 1.5.2 Provide evidence from the photograph to support your answer to QUESTION 1.5.1. (1 x 1) (1)
- 1.5.3 Define the term *water table*. (1 x 1) (1)
- 1.5.4 Draw TWO labelled diagrams to show the different positions of the water table in the dry season and the rainy season. (2 x 2) (4)
- 1.5.5 In a paragraph of approximately EIGHT lines, explain the influence of precipitation and gradient on the amount of deposited material evident on the river bed. (4 x 2) (8)

- 1.6 Refer to FIGURE 1.6 showing two types of river flow, **A** and **B**.
- | | | | |
|-------|---|---------|-----|
| 1.6.1 | Identify the types of river flow A and B . | (2 x 1) | (2) |
| 1.6.2 | In which course of the river would you expect to find river flow B ? | (1 x 1) | (1) |
| 1.6.3 | Give a reason for river flow A in the photograph. | (1 x 2) | (2) |
| 1.6.4 | Why is river flow A associated with more erosion? | (1 x 2) | (2) |
| 1.6.5 | Explain the difference in the colour of the water associated with river flows A and B in the photographs. | (2 x 2) | (4) |
| 1.6.6 | Why is river flow A more suitable for adventure tourism? | (2 x 2) | (4) |
- [75]**

QUESTION 2

- 2.1 Read the following statements. Choose the correct word(s) from those given in brackets which will make each sentence geographically CORRECT. Write only the word(s) next to the question number (2.1.1–2.1.8) in the ANSWER BOOK.
- | | | |
|-------|---|-------------|
| 2.1.1 | (Warm/Cold) air rises through convection currents resulting in a low pressure on the earth's surface. | |
| 2.1.2 | The Coriolis force causes air that is moving horizontally across the earth's surface in the Southern Hemisphere to deflect to the (left/right). | |
| 2.1.3 | The (tropical easterlies/westerlies) are global wind systems that influence the direction of movement of mid-latitude cyclones. | |
| 2.1.4 | A (low/high)-pressure system is called an anticyclone. | |
| 2.1.5 | A change in the wind direction associated with a mid-latitude cyclone in the Northern Hemisphere is referred to as (backing/veering). | |
| 2.1.6 | High pressure systems are associated with (stable/unstable) weather conditions. | |
| 2.1.7 | A vertically developed cloud along the cold front of a mid-latitude cyclone is called a (nimbostratus/cumulonimbus) cloud. | |
| 2.1.8 | A rise in sea level and resultant coastal flooding associated with a tropical cyclone is known as a (storm surge/tsunami). | (8 x 1) (8) |

- 2.2 Refer to FIGURE 2.2 on different drainage patterns and match EACH of the descriptions below with one of the drainage patterns **A** to **E**. You may choose the same drainage pattern more than once.
- 2.2.1 The stream pattern associated with rocks that have equal resistance to erosion
- 2.2.2 Main streams that are parallel to each other
- 2.2.3 Main streams that have 90° bends along its course
- 2.2.4 Streams with an irregular pattern
- 2.2.5 Rivers flowing away from a central point
- 2.2.6 A drainage pattern that forms on rocks that have varying resistance to erosion due to folding
- 2.2.7 Tributaries join the main stream at an acute angle (7 x 1) (7)
- 2.3 Study FIGURE 2.3 showing the observed tracks of tropical cyclones in the USA.
- 2.3.1 How many tropical cyclones occurred in the 2015 season? (1 x 1) (1)
- 2.3.2 Why do tropical cyclones move in a westerly direction? (1 x 1) (1)
- 2.3.3 Give the term used to refer to tropical cyclones in this part of the world. (1 x 1) (1)
- 2.3.4 Discuss TWO conditions that promote the development of tropical cyclones. (2 x 2) (4)
- 2.3.5 The path of a tropical cyclone can be very erratic (unpredictable). In a paragraph of approximately EIGHT lines, give possible reasons for the erratic path they follow and why this creates problems for disaster management teams to effectively manage the impact of tropical cyclones. (4 x 2) (8)
- 2.4 Refer to FIGURE 2.4 showing anticyclones over southern Africa.
- 2.4.1 Name high pressure cell **B**. (1 x 1) (1)
- 2.4.2 Why does high pressure cell **B** dominate the interior of South Africa in winter? (1 x 2) (2)
- 2.4.3 Give a reason for the lack of rainfall associated with high pressure cell **A**. (1 x 2) (2)
- 2.4.4 Explain the change in the position of the anticyclones over South Africa between summer and winter. (2 x 2) (4)
- 2.4.5 Explain why the South Indian High Pressure Cell feed more moist air over the interior in summer than in winter. (3 x 2) (6)

2.5 Study FIGURE 2.5 which illustrates river rejuvenation.

- | | | | |
|-------|--|---------|-----|
| 2.5.1 | Define the term <i>river rejuvenation</i> . | (1 x 1) | (1) |
| 2.5.2 | State ONE condition that results in river rejuvenation. | (1 x 2) | (2) |
| 2.5.3 | What does a knickpoint indicate on a river profile? | (1 x 2) | (2) |
| 2.5.4 | How does river rejuvenation impact on the grading of a river? | (1 x 2) | (2) |
| 2.5.5 | In a paragraph of approximately EIGHT lines, describe, with reasons, the changes that will occur in the fluvial features found in the lower course of the river as a result of river rejuvenation. | (4 x 2) | (8) |

2.6 Read the extract in FIGURE 2.6 based on river catchment areas in South Africa.

- | | | | |
|-------|---|---------|-----|
| 2.6.1 | What is a <i>catchment area</i> ? | (1 x 1) | (1) |
| 2.6.2 | What evidence in the article indicates that drought is an ever-present risk? | (1 x 2) | (2) |
| 2.6.3 | Give ONE reason for the destruction of catchment areas. | (1 x 2) | (2) |
| 2.6.4 | Suggest TWO steps that need to be taken by the government and non-governmental organisations (NGOs) to manage catchment areas that are at risk. | (2 x 2) | (4) |
| 2.6.5 | Discuss the negative impact of poor catchment management practices for South Africa. | (3 x 2) | (6) |
- [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 Indicate whether EACH of the statements below describes an URBAN or a RURAL settlement. Write only URBAN or RURAL next to the question numbers (3.1.1–3.1.8) in the ANSWER BOOK.

3.1.1 Unifunctional settlement

3.1.2 Includes towns, cities, a metropolis and a megalopolis

3.1.3 Associated with secondary, tertiary and quaternary activities

3.1.4 Includes farmsteads, hamlets and villages

3.1.5 Displays a dispersed settlement pattern

3.1.6 Has a variety of functions, such as shops, schools and places of worship

3.1.7 Characterised by primary economic activities

3.1.8 Serves the role of a central place (8 x 1) (8)

3.2 Refer to FIGURE 3.2 and match the types of industries in the diagram with the statements below.

3.2.1 Industries that produce perishable goods

3.2.2 Industries that can be located anywhere and are not restricted by the location of markets or raw materials

3.2.3 Industries that can be located anywhere without an effect from factors such as resources or transport

3.2.4 Industries that process bulky raw materials

3.2.5 Industries located on the outskirts of the built-up areas because of noise and air pollution

3.2.6 Industries located between the source of the raw material and the market (customers)

3.2.7 Industries that occupy small spaces and can be located in the city centre (7 x 1) (7)

- 3.3 Refer to FIGURE 3.3 showing a satellite image of a rural settlement situated on the interior plateau in South Africa.
- 3.3.1 Identify the rural settlement pattern in FIGURE 3.3. (1 x 1) (1)
- 3.3.2 Give ONE reason for your answer to QUESTION 3.3.1. (1 x 2) (2)
- 3.3.3 Why is this type of settlement pattern associated with large-scale farming? (1 x 2) (2)
- 3.3.4 Why does this settlement pattern make farmers vulnerable (at risk) to farm attacks? (1 x 2) (2)
- 3.3.5 In a paragraph of approximately EIGHT lines, discuss the possible factors that would have influenced the location of this settlement. (4 x 2) (8)
- 3.4 FIGURE 3.4 shows data on land restitution in the various provinces in South Africa.
- 3.4.1 Define the term *land restitution*. (1 x 1) (1)
- 3.4.2 Give the total number of land claims made to date. (1 x 1) (1)
- 3.4.3 Which province has allocated the largest amount of land for land restitution thus far? (1 x 1) (1)
- 3.4.4 Comment on the total land cost in relation to the total amount awarded for the land restitution process. (1 x 2) (2)
- 3.4.5 Give TWO reasons for your answer to QUESTION 3.4.4. (2 x 2) (4)
- 3.4.6 Explain the important role that land restitution plays in the social justice process in a democratic South Africa. (3 x 2) (6)
- 3.5 FIGURE 3.5 is an article on informal trading in South Africa.
- 3.5.1 State TWO general characteristics of informal trading evident in the photograph. (2 x 1) (2)
- 3.5.2 State a reason why the contribution of the informal sector to the GDP is estimated at 29%. (1 x 2) (2)
- 3.5.3 Why do small businesses not have effective business models and expansion strategies as mentioned in the article? (2 x 2) (4)
- 3.5.4 Write a paragraph of approximately EIGHT lines to explain the advantages and disadvantages of informal trading on the South African economy. (4 x 2) (8)

3.6 Read the extract in FIGURE 3.6 based on food insecurity.

- 3.6.1 What is *food insecurity*? (1 x 1) (1)
- 3.6.2 According to the article, why do most people who suffer from food insecurity come from Asia and Africa? (1 x 1) (1)
- 3.6.3 Explain why small-scale farmers in Asia and Africa are economically vulnerable (at risk). (1 x 2) (2)
- 3.6.4 Discuss TWO characteristics of subsistence farmers that make them vulnerable. (2 x 2) (4)
- 3.6.5 Provide solutions to reduce the problem of global hunger. (3 x 2) (6)
- [75]**

QUESTION 4

- 4.1 Choose a term from COLUMN B that matches the description in COLUMN A. Write only the letter (A–H) next to the question number (4.1.1–4.1.7) in the ANSWER BOOK, for example 4.1.8 I.

COLUMN A		COLUMN B	
4.1.1	Increase in the number of people living in urban areas	A	urban morphology
4.1.2	Zone on the outskirts of the city where urban and rural land-use functions are mixed	B	urban sprawl
4.1.3	Ageing and deterioration of buildings in the inner city	C	rural-urban fringe
4.1.4	Formless expansion of urban areas into the surrounding rural areas	D	urban profile
4.1.5	Internal structure of an urban area	E	urban growth
4.1.6	System of ranking settlements according to size and functions	F	urban blight
4.1.7	Increase in the size of urban areas	G	urban expansion
		H	urban hierarchy

(7 x 1) (7)

4.2 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 (4.2.1–4.2.8) in the ANSWER BOOK, for example 4.2.9 D.

4.2.1 The high-technology sector of the economy linked to research and development:

- A Primary
- B Secondary
- C Tertiary
- D Quaternary

4.2.2 An economic activity associated with transport, banking and other services:

- A Quaternary
- B Tertiary
- C Secondary
- D Primary

4.2.3 A term that describes goods that are mainly produced for selling to other countries:

- A Home market
- B Import market
- C Export market
- D Regional market

4.2.4 Total value of goods and services produced in a country in one year:

- A Gross national product
- B Gross geographic product
- C Gross domestic product
- D Gross provincial product

4.2.5 The smallest core industrial area that contributes the most to the GDP of South Africa annually:

- A PWV-Gauteng
- B Durban-Pinetown
- C Port Elizabeth-Uitenhage
- D South-Western Cape

4.2.6 The agglomeration of industries in a few core areas:

- A Industrial decentralisation
- B Spatial economic zones
- C Industrial development zones
- D Industrial centralisation

4.2.7 The processing of raw materials to increase their value:

- A Primary activities
- B Secondary activities
- C Tertiary activities
- D Quaternary activities

4.2.8 The core industrial region where the deepest port in South Africa has been completed recently:

- A PWV-Gauteng
- B Durban-Pinetown
- C South-Western Cape
- D Port Elizabeth-Uitenhage (8 x 1) (8)

4.3 Refer to FIGURE 4.3, an extract on rural-urban migration.

4.3.1 What is *rural-urban migration*? (1 x 1) (1)

4.3.2 The extract implies 'hope' from rural-urban migration. What are the migrants expecting in the urban areas? (1 x 2) (2)

4.3.3 Explain why rural-urban migration does not always lead to an improvement in the standard of living of rural migrants. (2 x 2) (4)

4.3.4 In a paragraph of approximately EIGHT lines, evaluate the negative impact of rural-urban migration on cities. (4 x 2) (8)

4.4 Study FIGURE 4.4 based on the urban profile.

4.4.1 What does an urban profile depict? (1 x 1) (1)

4.4.2 Give a reason for the building density in the CBD. (1 x 2) (2)

4.4.3 Why is the transitional zone often referred to as the zone of decay? (1 x 2) (2)

4.4.4 Discuss TWO problems experienced in the CBD that have led to the mass exodus (leaving) of commercial functions. (2 x 2) (4)

4.4.5 Evaluate the impact the exodus of functions has had on the status of the CBD. (3 x 2) (6)

- 4.5 Read the article in FIGURE 4.5 based on the declining mining sector in South Africa.
- 4.5.1 Quote from the article why South Africa's mining industry is 'in trouble'. (1 x 1) (1)
- 4.5.2 What percentage of the gross domestic product does mining contribute towards the South African economy? (1 x 1) (1)
- 4.5.3 Which sectors of the economy, according to the article, does the government think should be developed, to grow South Africa's economy? (1 x 2) (2)
- 4.5.4 Briefly explain why the 'recent downturn in the metal industry and subdued demand from China' has had a negative effect on South Africa's mining sector. (2 x 2) (4)
- 4.5.5 In a paragraph of approximately EIGHT lines, discuss factors that have contributed to the instability of the mining sector in South Africa. (4 x 2) (8)
- 4.6 Study the map in FIGURE 4.6 showing the spatial development initiatives in South Africa.
- 4.6.1 What is a *spatial development initiative (SDI)*? (1 x 1) (1)
- 4.6.2 Name a southern African country in the diagram which shares or works together with South Africa on the Maputo Development Corridor SDI. (1 x 1) (1)
- 4.6.3 Give ONE reason why the Wild Coast was selected to be developed as an SDI. (1 x 2) (2)
- 4.6.4 Discuss TWO ways in which the development of the Maputo Development Corridor SDI will benefit tourism. (2 x 2) (4)
- 4.6.5 Explain how the Maputo Development Corridor and the Wild Coast SDI have benefited the surrounding local communities. (3 x 2) (6)
- TOTAL: 225**
- [75]**