GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

GAUTENG DEPARTMENT OF EDUCATION

PREPARATORY EXAMINATION

2017

10781

GEOGRAPHY

FIRST PAPER

TIME: 3 hours

MARKS: 225

15 pages + an addendum of 14 pages

GEOGRAPHY: Paper 1
1078E

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(First Paper)

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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 ADDENDUM.
4. Leave a line open between sub-sections 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. Number the answers in the CENTRE of the line.
7. Do NOT write in the margins of the ANSWER BOOK.
8. Illustrate your answers with labelled diagrams, where possible.
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 in the ADDENDUM. Complete the statements below by selecting the correct option from within the brackets to make each of the statements TRUE. Write only the word(s) next to the question number (1.1.1–1.1.7) in the ANSWER BOOK, e.g. 1.1.8 higher.

1.1.1 The descending air at **A** is due to the location of the (Kalahari / South Indian) high-pressure cell which is located over the interior of South Africa.

1.1.2 **B** represents the (thermal belt / inversion layer).

1.1.3 At **B**, the temperature (increases / decreases) with an increase in height.

1.1.4 This diagram shows (winter / summer) conditions.

1.1.5 This diagram shows typical conditions on South Africa's (east / west) coast.

1.1.6 The interior of South Africa will generally experience (dry / wet) conditions.

1.1.7 The rising air at **C** is (warm and moist / cold and dry). (7x1) (7)

1.2 Refer to FIGURE 1.2 and give ONE word for each of the following descriptions. Only write down the word next to the question number (1.2.1 – 1.2.8) in your ANSWER BOOK, e.g. 1.2.9 drainage.

1.2.1 The course of a river where most waterfalls occur

1.2.2 The type of flow as indicated by **A**

1.2.3 Name the river course at **2**.

1.2.4 The smooth flow of the river in course **1**

1.2.5 Vertical erosion is very dominant in this course.

1.2.6 This type of flow is responsible for large scale erosion.

1.2.7 The river course where deposition is dominant

1.2.8 The course of the river which has a wider V-shape (8x1) (8)

1.3 Study the newspaper article in FIGURE 1.3 and answer the questions that follow.

1.3.1 (a) How many hurricanes were experienced in this area before Hurricane Matthew? (1x1) (1)

(b) Give a reason for your answer to QUESTION 1.3.1(a). (1x2) (2)

1.3.2 Identify TWO specific characteristics of the hurricane mentioned in the article in FIGURE 1.3. (2x1) (2)

1.3.3 Explain the meaning of a *storm surge* as is referred to in the article. (1x2) (2)

1.3.4 In the article, President Barack Obama urged people to heed safety instructions. In a paragraph of approximately EIGHT lines, explain how sustainable measures could assist in limiting the effects of future disasters caused by hurricanes. (4x2) (8)

1.4 Refer to FIGURE 1.4 showing travelling disturbances.

1.4.1 Label the winds at **A** and **B** respectively. (2x1) (2)

1.4.2 Give the temperature of the winds at **A** and **B**. (2x1) (2)

1.4.3 Name front **C**. (1x1) (1)

1.4.4 This travelling disturbance will result in line thunderstorms. Explain how line thunderstorms are formed. (3x2) (6)

1.4.5 Line thunderstorms can be a blessing and a curse to farmers. Explain this statement. (2x2) (4)

1.5 Refer to FIGURE 1.5 showing the Tugela river drainage system and answer the following questions.

1.5.1 Determine the stream order at **X**. (1x1) (1)

1.5.2 (a) Identify the drainage pattern found in block **A**. (1x1) (1)

(b) Mention the underlying rock structure and rock type associated with the drainage pattern found in block **A**. (2x1) (2)

1.5.3 (a) Does area **A** have a high or low drainage density? (1x1) (1)

(b) Explain how permeability, gradient and vegetation could have influenced the drainage density as referred to in QUESTION 1.5.3 (a). (3x2) (6)

1.5.4 Explain how erosion influences the width of the river valley in stages **A** and **B**. (2x2) (4)

1.6 One of the main sustainable solutions to the increased temperature of an urban area is greenbelt development.

1.6.1 State the term for the climatic feature that depicts the increased temperature in an urban area. (1x1) (1)

1.6.2 Explain the term *greenbelt development.* (1x2) (2)

1.6.3 Discuss TWO challenges of greenbelt development in an urban area. (2x2) (4)

1.6.4 In a paragraph of approximately EIGHT lines, evaluate the positive impact that greenbelt development will have on an urban area. (4x2) (8)

[75]

QUESTION 2

2.1 Refer to FIGURE 2.1. Various options are provided as possible answers to the following statements. Read the statement, choose the correct answer and write the letter (A – D) next to the question number (2.1.1 – 2.1.8) in the ANSWER BOOK, for example 2.1.9 D.

2.1.1 High-pressure cell **B**, is responsible for … conditions in winter.

A dry and sunny
B cold and moist
C unstable and rainy
D wet and warm

2.1.2 The horizontal position of these high-pressure systems change as a result of the …

A influence of low pressure systems.
B altitude of the continent.
C movement of the ITCZ seasonally.
D the rainfall patterns over South Africa.

2.1.3 High-pressure cell **B** is situated at a higher altitude during …

A winter.
B autumn.
C summer.
D spring.

2.1.4 This pressure cell results in north-easterly winds over the coast of South Africa.

A South Indian anticyclone
B South Atlantic anticyclone
C Kalahari high anticyclone
D Mid-latitude cyclone

2.1.5 This pressure cell shows the smallest seasonal locational changes.

A South Indian anticyclone
B South Atlantic anticyclone
C Kalahari anticyclone
D Mid-latitude cyclone

2.1.6 The high-pressure cell **B** is associated with …

A surface convergence.
B upper air divergence.
C surface convection.
D upper air convergence.

2.1.7 This high-pressure cell is mainly responsible for preventing the cold front from moving over South Africa.

A South Indian high-pressure cell
B South Atlantic high-pressure cell
C Kalahari high-pressure cell
D Mid-latitude anticyclone

2.1.8 FIGURE 2.1 shows … atmospheric conditions.

A summer
B winter
C autumn
D spring (8x1) (8)

2.2 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 (2.2.1 – 2.2.7) in the ANSWER BOOK, for example 2.2.8 J.

COLUMN A		COLUMN B	
2.2.1	The slope where deposition is dominant during the meandering process	A	Natural levee
		B	Braided streams
2.2.2	Channels that are separated by islands of deposited material	C	Undercut slope
		D	Oxbow lake
2.2.3	Feature formed due to deposition at the mouth of a river	E	Islands
2.2.4	A raised river bank formed by deposition	F	Slip-off slope
		G	Floodplain
2.2.5	A cut-off meander that is filled with water after flooding	H	Delta
2.2.6	Steep-sided river bank of a meander		
2.2.7	Flat, open valley in the lower course		(7x1)

(7)

2.3 Refer to FIGURE 2.3 to answer the following questions.

2.3.1 Identify the weather phenomenon illustrated in FIGURE 2.3. (1x1) (1)

2.3.2 Give TWO reasons why one can say that this weather system is found in the Southern Hemisphere. (2x1) (2)

2.3.3 Identify the stage of development in the formation of the phenomenon in FIGURE 2.3 and give a reason for your answer. (1+2) (3)

2.3.4 In a paragraph of approximately EIGHT lines, evaluate the positive and negative impact that this weather phenomenon will have on tourism in the Western Cape. (4x2) (8)

2.4 Study FIGURE 2.4 showing micro-climate in a valley.

2.4.1 Identify the type of wind illustrated in FIGURE 2.4. (1x1) (1)

2.4.2 Is this wind most common during the day or during the night? (1x1) (1)

2.4.3 Explain your answer to QUESTION 2.4.2. (1x2) (2)

2.4.4 Give the geographical name for the layer at **B**. (1x2) (2)

2.4.5 Provide reasons for the location of layer **B** in the valley. (2x2) (4)

2.4.6 Explain how layer **B** will influence the location of different farming activities in this valley. (3x2) (6)

2.5 FIGURE 2.5 shows the process of rejuvenation.

2.5.1 Define the term *rejuvenation.* (1x1) (1)

2.5.2 Identify the landform at **A** which formed due to rejuvenation. (1x1) (1)

2.5.3 Explain how this landform, the answer to QUESTION 2.5.2, changes the longitudinal profile of the river. (2x2) (4)

2.5.4 State TWO landforms visible in FIGURE 2.5, other than the landform mentioned in QUESTION 2.5.2, which shows evidence of rejuvenation. (2x1) (2)

2.5.5 Discuss the possible environmental impacts that rejuvenation will have on the area downstream. (3x2) (6)

2.6 Study the photo in FIGURE 2.6 showing the results of overgrazing.

2.6.1 Define the term *overgrazing.* (1x1) (1)

2.6.2 (a) State ONE cause of overgrazing. (1x1) (1)

(b) Discuss THREE results that overgrazing will have on the farming and the community depicted in FIGURE 2.6. (3x2) (6)

2.6.3 In a paragraph of approximately EIGHT lines, suggest sustainable strategies of how effective river catchment management will rectify the situation caused by overgrazing. (4x2) (8)

[75]

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

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

QUESTION 3

3.1 The location of a settlement is a result of different factors. Choose the **type of settlement** from COLUMN B that matches a **description of the factor** in COLUMN A. Write only the letter (A – I) next to the question number (3.1.1 – 3.1.8) in the ANSWER BOOK, for example 3.1.9 J.

COLUMN A		COLUMN B	
3.1.1	The main function of the town is its export of products.	A	Break-of-bulk town
		B	Recreation town
3.1.2	The town where one type of transport is replaced by another	C	Central place town
3.1.3	The town that develops at a gap through a mountain range	D	Trade and transport town
3.1.4	The town where the main function is health services	E	Dry point settlement
		F	Wet point settlement
3.1.5	The town that develops due to an important connection between roads	G	Gateway town
3.1.6	An urban settlement rendering the basic services to the surrounding rural area	H	Specialized town
		I	Junction town
3.1.7	The area from where a specific function attracts tourists		
3.1.8	Settlement built to be safe from floods		(8x1)

(8)

3.2 Farming as an economic activity is practised on different levels. Give ONE word / term that best describes the type of farming in the descriptions 3.2.1 – 3.2.7. Choose the term from the block below. Each term may only be used once.

Crops, Intensive farming, Communal farming, Large scale farming, Extensive farming, Rotational grazing, Food security, Small scale farming

3.2.1 Farm land that is owned by a group of people

3.2.2 The movement of cattle from one grazing pasture to another

3.2.3 The production of sufficient food in order to live a healthy and productive life

3.2.4 Farming carried out in regulated tunnels, for example tomatoes

3.2.5 Farming of multiple crops and livestock in a highly mechanised way for maximum profit

3.2.6 Farming where the output per hectare is high, the labour force is large and is situated close to the market

3.2.7 Crop or pastoral farming on a large area by a single owner

(7x1) (7)

3.3 Many areas similar to the one indicated in FIGURE 3.3 are experiencing problems as a result of rural-urban migration. Study FIGURE 3.3 and answer the questions that follow.

3.3.1 Define the term *rural-urban migration*. (1x1) (1)

3.3.2 State TWO economic push factors, indicated in FIGURE 3.3, that will cause rural-urban migration. (2x1) (2)

3.3.3 Mention THREE negative consequences of rural-urban migration on farming in the rural area. (3x1) (3)

3.3.4 State TWO basic needs from the pull factors, indicated in FIGURE 3.3, that could cause young adults to migrate to urban areas. (2x1) (2)

3.3.5 In a paragraph of approximately EIGHT lines discuss how rural-urban migration will impact on the quality of service delivery in a rural town. (4x2) (8)

3.4 Refer to FIGURE 3.4 showing the effects of urban sprawl on land use zones.

3.4.1 Define the term *urban sprawl*. (1x1) (1)

3.4.2 State the main cause of urban sprawl. (1x1) (1)

3.4.3 Decentralised commercial functions are often found in the rural-urban fringe. Identify TWO factors indicated in FIGURE 3.4 that benefit shopping centres that have been decentralised. (2x1) (2)

3.4.4 Explain how urban sprawl will alter the rural-urban fringe found between **A** and **B** in FIGURE 3.4. (2x2) (4)

3.4.5 Suggest solutions that could be implemented to counteract urban sprawl. (3x2) (6)

3.5 Refer to the article in FIGURE 3.5 on the unemployment crisis in South Africa.

3.5.1 Define the term *informal sector*. (1x1) (1)

3.5.2 State THREE social reasons for the high unemployment rate in South Africa. (3x1) (3)

3.5.3 Explain TWO challenges that the informal sector creates for the economic development of South Africa. (2x2) (4)

3.5.4 Evaluate how the informal sector will impact on reducing the unemployment rate and improving the quality of life of those affected. (3x2) (6)

3.6 The Wild Coast in the Eastern Cape has been identified as a Spatial Development Initiative (SDI) because of its unique location. However, before this can take place, an impact study has to be undertaken which can delay the development process. Refer to FIGURE 3.6 and answer the questions that follow.

3.6.1 Define the term *Spatial Development Initiative.* (1x1) (1)

3.6.2 (a) How would the development of the Wild Coast highway impact on the employment sector in the Eastern Cape? (1x1) (1)

(b) Give a reason for your answer to QUESTION 3.6.2(a). (1x2) (2)

3.6.3 Provide possible reasons why the aim for the integrated Wild Coast Development Program, is to ensure sustainable development. (2x2) (4)

3.6.4 Although the Wild Coast SDI will play a role in the upliftment of the lives of people in the Eastern Cape, it can have a negative impact on the natural environment. In a paragraph of approximately EIGHT lines suggest measures that can be implemented to ensure the sustainability of both the SDI and the natural environment. (4x2) (8)

[75]

QUESTION 4

4.1 FIGURE 4.1 shows the land-use zone designation of a city. Choose the correct land-use zone indicated in FIGURE 4.1 and indicate the zone next to the question number (4.1.1 – 4.1.8) in the ANSWER BOOK, for example 4.1.9 commercial.

4.1.1 The land-use zone in which a golf-estate is generally situated

4.1.2 The type of residential land-use zone with high density housing formed close to transport routes and areas of employment

4.1.3 A commercial land-use zone with the highest land value

4.1.4 The land-use zone that will have a positive effect on an urban heat island

4.1.5 The land-use zone where mixed functions developed because of expansion of the CBD

4.1.6 The settlement that developed due to the lack of housing

4.1.7 The type of industrial zone found in residential areas

4.1.8 An area where commercial decentralization will take place (8x1) (8)

4.2 Various options are provided as possible answers to the statements below. Read the statement, choose only the letter (A – D) and write the letter next to the question number (4.2.1 – 4.2.7) in the ANSWER BOOK, for example 4.2.8 D.

4.2.1 The mineral exported from Richards Bay in KwaZulu-Natal is …

A gold.
B coal.
C iron ore.
D uranium.

4.2.2 An economic factor that hinders mining in South Africa is …

A the high amount of rainfall occurring throughout the year.
B its dependence on foreign markets.
C the lack of markets.
D the lack of unskilled labour supply.

4.2.3 The company that generates fuels from coal is …

A Sasol.
B Caltex.
C Engen.
D Shell.

4.2.4 The mineral that is often referred to as ‘black gold’ is ...

A gold.
B coal.
C iron ore.
D uranium.

4.2.5 A physical factor that favours mining in South Africa is …

A the low thermal gradient of rock layers.
B the varied climatic regions.
C the availability of capital for excavation.
D the availability of low cost labour.

4.2.6 … is a by-product resulting from the production of coal that supplies link industries with raw materials.

A Carbon dioxide
B Sulphuric acid
C Briquettes
D Benzene

4.2.7 Energy generated through coal is …

A nuclear energy.
B thermal energy
C hydro-electricity.
D biomass-energy. (7x1) (7)

4.3 Study FIGURE 4.3, which shows settlements **A, B** and **C**, in a rural area.

4.3.1 Explain the term *site*. (1x1) (1)

4.3.2 Identify TWO physical factors that played a role in determining the site of settlement **A**. (2x1) (2)

4.3.3 Classify settlements **A, B** and **C** as either intensive, extensive or subsistence farming. (3x1) (3)

4.3.4 Explain TWO site factors found at settlement **C** that will impact positively on the farming practices carried out there. (2x2) (4)

4.3.5 Provide possible reasons for the location of settlement **B** close to the forest. (2x2) (4)

4.4 Refer to FIGURE 4.4 A and FIGURE 4.4 B showing the Tuk-Tuk vehicle as a mode of transport.

4.4.1 What form of transport is rendered by the Tuk-Tuk service? (1x1) (1)

4.4.2 Refer to FIGURE 4.4 A and B and identify the urban challenge that results in the investment of the Tuk-Tuk as a mode of transport in the city. (1x1) (1)

4.4.3 Discuss THREE reasons why modern cities experience this urban challenge (Answer to QUESTION 4.4.2). (3x2) (6)

4.4.4 The Tuk-Tuk initiative is a new transportation project in Johannesburg. In a paragraph of approximately EIGHT lines, discuss the advantages and disadvantages that it can have on problems in an overpopulated city. (4x2) (8)

4.5 "It's going to get ugly here, so we, as South Africans, need to have a much better understanding of our country's electricity system, Eskom. We can look at our consumption patterns and pricing, the cost of load-shedding and how we can escape from the precarious situation we find ourselves in these days." – Dirk de Vos.

Study FIGURE 4.5, SOUTH AFRICA'S ENERGY PREDICAMENT.

4.5.1 Define the term *load-shedding* in terms of electricity. (1x1) (1)

4.5.2 Why has South Africa implemented load-shedding? (1x2) (2)

4.5.3 (a) Which category, according to FIGURE 4.5 uses the highest percentage of electricity? (1x1) (1)

(b) Give a reason evident in FIGURE 4.3 for your answer to QUESTION 4.5.3 (a). (1x2) (2)

4.5.4 What percentage of electricity is used by the primary sector in South Africa? (1x2) (2)

4.5.5 In a paragraph of approximately EIGHT lines explain how South Africa's economy will be influenced by load-shedding and discuss possible initiatives that the economic sectors can implement to reduce the electricity demand. (4x2) (8)

4.6 The eThekwini (Durban-Pinetown) core industrial region produces approximately 13% of all manufactured goods in South Africa, and is the second most important industrial region in South Africa. Study FIGURE 4.6, a map of the eThekwini (Durban-Pinetown) Industrial Area.

4.6.1 Define the concept *industrial region*. (1x1) (1)

4.6.2 List THREE factors that favour the development of the eThekwini industrial region. (3x1) (3)

4.6.3 Many of the industries which developed in this region are bridge industries. Provide TWO reasons why the Toyota assembly plant can be seen as a bridge industry. (2x2) (4)

4.6.4 Evaluate the positive impact of manufacturing Toyota vehicles in this industrial region as opposed to importing these vehicles. (3x2) (6)

[75]

TOTAL: 225

END