GAUTENG PROVINCE
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REPUBLIC OF SOUTH AFRICA

GAUTENG DEPARTMENT OF EDUCATION

PREPARATORY EXAMINATION

2018

10781

GEOGRAPHY

PAPER 1

TIME: 3 hours

MARKS: 225

16 pages + an addendum of 15 pages

GEOGRAPHY: Paper 1
1078E
10781E

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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 / FOLIO PAPER.
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 / FOLIO PAPER.

1.1.1 **B** is a (high / low) pressure system.

1.1.2 **C** is a (high / low) pressure system.

1.1.3 **C** is associated with (subsiding / rising) air.

1.1.4 Air circulates (anti-clockwise / clockwise) around pressure system **B**.

1.1.5 Pressure system (**B** / **C**) is dominant over the land in winter.

1.1.6 The pressure reading at **C** is (higher / lower) than 1 022 millibars / hectopascals.

1.1.7 The local wind at **A** is a (valley / berg) wind.

(7x1) (7)

1.2 Refer to FIGURE 1.2 and give the correct letter / term that matches the geomorphological description in the following statements. Write only the letter / term next to the question number (1.2.1 – 1.2.8) in the ANSWER BOOK / FOLIO PAPER, for example 1.2.9 E.

1.2.1 The drainage pattern at **A.**

1.2.2 The drainage pattern where the main stream has a 90° bend.

1.2.3 The drainage pattern at **B**.

1.2.4 The drainage pattern which forms on igneous rock that has joints and cracks.

1.2.5 Identify the drainage pattern which resembles the branches of a tree.

1.2.6 Name the drainage pattern associated with sedimentary rocks of uniform resistance.

1.2.7 The drainage pattern that develops on alternate layers of hard and soft rock.

1.2.8 The drainage pattern that will develop on a dome.

(8x1) (8)

1.3 Study the newspaper article and satellite image in FIGURE 1.3.

1.3.1 Give evidence from the satellite photograph to prove that Dineo occurs in the southern hemisphere. (1x1) (1)

1.3.2 Name TWO characteristics of a tropical cyclone that is mentioned in the passage. (2x1) (2)

1.3.3 (a) Which stage of development of tropical cyclone Dineo is illustrated in the satellite image in FIGURE 1.3? (1x1) (1)

(b) Provide evidence from the satellite image for your answer to QUESTION 1.3.3(a). (1x2) (2)

1.3.4 Explain the following phrase from the article: “tropical depression, which is now referred to as ex-Dineo ...” (1x2) (2)

1.3.5 In a paragraph of approximately EIGHT lines explain the environmental impact that tropical cyclone Dineo will have on the Lowveld and escarpment regions of Mpumalanga and Limpopo. (4x2) (8)

1.4 Refer to FIGURE 1.4 which shows a valley in the northern hemisphere.

1.4.1 (a) Match slopes **A** and **B** with the terms highest and lowest insolation. (2x1) (2)

(b) Give a reason for your answer to QUESTION 1.4.1(a) (1x2) (2)

1.4.2 Define the term *thermal belt*. (1x1) (1)

1.4.3 Name the local (tertiary) wind that influences the development of the thermal belt at night. (1x1) (1)

1.4.4 Describe how the wind referred to in QUESTION 1.4.3 develops. (2x2) (4)

1.4.5 Explain why people living in the Alps tend to build their houses on the middle slopes of the valley, **C** and **D** in FIGURE 1.4, rather than on the valley floor. (2x2) (4)

1.5 Refer to FIGURE 1.5 showing two drainage basins.

1.5.1 Define the following terms:

(a) *river system*
(b) *drainage basin* (2x1) (2)

1.5.2 Name the feature indicated by **A**. (1x1) (1)

1.5.3 Which drainage basin, **B** or **C**, has a higher drainage density? (1x1) (1)

1.5.4 Give a reason for your answer to QUESTION 1.5.3. (1x2) (2)

1.5.5 Describe the influence that prolonged precipitation will have on the drainage density of drainage basin **C.** (1x2) (2)

1.5.6 Explain the influence that a higher drainage density will have on the meanders at **F** in the river channel? (2x2) (4)

1.5.7 Why would flooding be more likely to occur at the river confluence at **D** rather than at **E**? (1x2) (2)

1.6 Use FIGURE 1.6, which illustrates waterfall retreat.

1.6.1 In which river course are waterfalls mostly found? (1x1) (1)

1.6.2 How does the resistance of rocks contribute to the formation of a waterfall? (1x2) (2)

1.6.3 Explain the role of rejuvenation in the development of a waterfall. (2x2) (4)

1.6.4 Identify the erosional process responsible for the waterfall moving upstream. (1x1) (1)

1.6.5 Explain in a paragraph of approximately EIGHT lines the economic benefit of a waterfall to the surrounding community. (4x2) (8)

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QUESTION 2

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

2.1.1 The mid-latitude cyclone depicted in FIGURE 2.1 developed in the … hemisphere.

A south-western
B south-eastern
C north-western
D north-eastern

2.1.2 The mid-latitude system moves in a … direction.

A northerly
B southerly
C easterly
D westerly

2.1.3 The mid-latitude cyclone in FIGURE 2.1 will have a greater influence on the weather over land in the month of … in South Africa.

A September
B May
C February
D November

2.1.4 The wind direction at **D** is a … wind.

A north-easterly
B south-easterly
C south-westerly
D north-westerly

2.1.5 The air pressure in the centre of the low pressure at **E** is … millibars / hectopascals.

A 1002
B 1006
C 1010
D 1004

2.1.6 The cloud formation **F** in front of the cold front are … clouds.

A stratus
B cumulus
C cumulonimbus
D nimbostratus

2.1.7 The condensation level and the formation of cloud **F** takes place at …°C.

A 0
B 15
C 8
D 12

2.1.8 When the cold front joins the warm front the mid-latitude cyclone is in the … stage.

A wave
B frontal
C occlusion
D warm sector

(8x1) (8)

2.2 Fluvial landforms and their characteristics are illustrated by **A – J** in FIGURE 2.2. Give a term that matches the geomorphological description below. Write only the term next to the question number (2.2.1 – 2.2.7) in the ANSWER BOOK / FOLIO PAPER.

2.2.1 Name the slope at **H** where erosion occurs.

2.2.2 The fluvial feature that forms at **F** where the river flows into the ocean

2.2.3 The stage of the river at **J**

2.2.4 Landform between the meander loops at **C**

2.2.5 Place where a river begins at **A**

2.2.6 Landform that develops when the meander loop is cut-off from the river

2.2.7 The slope at **G** caused by deposition of alluvium

(7x1) (7)

2.3 Study FIGURE 2.3 showing a comparison between urban and rural climate.

2.3.1 Define the term *urban climate.* (1x1) (1)

2.3.2 Draw a simple, labelled diagram to illustrate an urban heat island. (2x1) (2)

2.3.3 (a) Use the information in FIGURE 2.3 and state the difference between the annual mean urban and annual mean rural temperature. (1x1) (1)

(b) What is the variation between the urban and rural precipitation according to FIGURE 2.3? (1x2) (2)

2.3.4 According to FIGURE 2.3, the urban area experiences less humidity but more rain. Discuss reasons for this. (2x2) (4)

2.3.5 Explain why an urban area receives less insolation than its surrounding rural environment. (2x2) (4)

2.4 Study FIGURE 2.4, a synoptic weather map.

2.4.1 (a) State the season indicated on the synoptic weather map. (1x1) (1)

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

2.4.2 Identify the low pressure system found to the south of Durban. (1x1) (1)

2.4.3 (a) State whether an onshore or off-shore wind is experienced in Durban. (1x2) (2)

(b) What term is used to describe the wind experienced in Durban? (1x2) (2)

2.4.4 With reference to your answer to QUESTION 2.4.3 (b), explain in a paragraph of no more than EIGHT lines, the temperature and cloud cover experienced in Durban. (4x2) (8)

2.5 Read the case study in FIGURE 2.5 on the Mystic River catchment area.

2.5.1 Define the term *river catchment area.* (1x1) (1)

2.5.2 Quote a reason from the case study why the Mystic River Watershed Association was established. (1x1) (1)

2.5.3 What does 'Superfund sites' in the article in FIGURE 2.5 mean? (1x1) (1)

2.5.4 (a) Identify from the image in FIGURE 2.5, ONE urban superfund site in the upper catchment area of the Mystic River. (1x2) (2)

(b) Mention the negative impact that the superfund site mentioned in QUESTION 2.5.4 (a) will have on the quality of the water in the Amelia Earhart dam. (1x2) (2)

2.5.5 In a paragraph of approximately EIGHT lines describe management strategies that the Mystic River Watershed Association can implement to protect and restore the sustainable water supply of the area upstream of the Amelia Earhart Dam. (4x2) (8)

2.6 Study FIGURE 2.6 which illustrates the longitudinal profile of a river and cross-sections of each stage.

2.6.1 State the difference between a *cross-profile* and a *longitudinal profile* of a river. (2x1) (2)

2.6.2 Identify the THREE stages depicted as **1, 2 and 3** in the longitudinal profile in FIGURE 2.6. (3x1) (3)

2.6.3 (a) Match the cross profiles, **A** and **B**, with the course of the river in which you will find them. (2x1) (2)

(b) Give reasons for your answer to QUESTION 2.6.3(a). (2x2) (4)

2.6.4 (a) The profile in FIGURE 2.6 is ungraded. Give a reason to support this statement. (1x2) (2)

(b) Mention ONE way in which the ungraded profile in FIGURE 2.6 can become graded. (1x2) (2)

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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 Study FIGURE 3.1. Choose a description in COLUMN A, that matches a settlement in COLUMN B. Write only the letter (A – I) next to the question number (3.1.1 – 3.1.7) in the ANSWER BOOK, for example 3.1.8 J.

COLUMN A		COLUMN B	
3.1.1	The shape at **D** where the road influences the shape of the settlement	A	Dispersed
3.1.2	The town at **G** which develops at the crossing of a river	B	Bridge town
3.1.3	The settlement at **H** where the water resource is the determining factor	C	Dry-point settlement
3.1.4	The site chosen at **A** is an attempt to avoid water.	D	T-junction village
3.1.5	The shape of the roads at **I** is the reason for the shape of the town.	E	Linear shape
3.1.6	The settlement at **K** developed due to the intersection of the roads.	F	Defence town
3.1.7	The town at **C** developed due to safety reasons during times of war.	G	Wet-point settlement
		H	Crossroad village
		I	Nucleated town

(7x1) (7)

3.2 Refer to the graph in FIGURE 3.2 showing the ranking of industries according to their contribution to GDP for the years 1980 and 2016.

3.2.1 For what does the abbreviation *GDP* stand?

3.2.2 Name the industry which does not show a positional change from 1980 to 2016.

3.2.3 Give the percentage contribution of the manufacturing industry for 1980.

3.2.4 State the percentage drop in the manufacturing industry from 1980 to 2016.

3.2.5 Name the activity which dropped by 4% due to the possibility of drought.

3.2.6 Name the economic sector of which construction is a part.

3.2.7 Determine the industry which shows the biggest percentage improvement from 1980 to 2016.

3.2.8 By what percentage did this industry, mentioned in QUESTION 3.2.7, increase from 1980 to 2016?

(8x1) (8)

3.3 Study FIGURE 3.3 showing a land-use map of Cape Town and the Hoyt Sector Model.

3.3.1 State the main focus of the urban model illustrated in FIGURE 3.3. (1x1) (1)

3.3.2 Name THREE land-use zones that are depicted on the map of Cape Town. (3x1) (3)

3.3.3 Identify the main reason for the decentralisation of the high income residential area at **1.** (1x2) (2)

3.3.4 Give TWO reasons for the location of the low income residential area. (2x2) (4)

3.3.5 Explain why Cape Town resembles Hoyt's Sector Model. (2x2) (4)

3.4 Refer to the case study in FIGURE 3.4 on the change in land-use.

3.4.1 Define the term *urban land-use*. (1x1) (1)

3.4.2 In which land-use zone is Davenport Centre situated? (1x1) (1)

3.4.3 Explain how a change in urban land-use has taken place in this case study. (1x2) (2)

3.4.4 State TWO disadvantages of this change in land-use for the residents in Glenwood. (2x1) (2)

3.4.5 Describe ONE advantage of this change in land-use for the residents in Glenwood. (1x2) (2)

3.4.6 The disadvantages of changing land-use have increased the development of security estates (homes) on the outskirts of the city. In a paragraph of approximately EIGHT lines, discuss the push factors that lead to the development of security estates (homes) on the outskirts of the city. (4x2) (8)

3.5 Refer to FIGURE 3.5, showing key factors contributing to the PWV Industrial Region.

3.5.1 Identify the factor that contributes the most to the PWV Industrial Region. (1x1) (1)

3.5.2 Identify the factor that contributes the least to the PWV Industrial Region. (1x1) (1)

3.5.3 Determine the total contribution of primary activities to the PWV economy. (1x2) (2)

3.5.4 Give a reason why mining and quarrying only contributes 3.3% to the economy of the PWV Industrial Region, keeping in mind that mining was originally the reason for the existence of the region. (1x2) (2)

3.5.5 In a paragraph of approximately EIGHT lines, explain the effect of the low percentage contribution of mining and quarrying on linked industries in the area and the surrounding community. (4x2) (8)

3.6 Refer to FIGURE 3.6, showing South African import and export commodities.

3.6.1 Identify the main commodity exported in 2016. (1x1) (1)

3.6.2 Identify the main commodity imported in 2016. (1x1) (1)

3.6.3 Explain the economic advantages of more exports than imports for a country. (2x2) (4)

3.6.4 Explain the social advantages of higher exports than imports for a country. (3x2) (6)

3.6.5 What measures can be implemented to increase South Africa's trade? (2x2) (4)

[75]

QUESTION 4

4.1 Choose the term from the block below that suits the descriptions on concepts in urban hierarchies. Each term may only be used once. Only write down the answer next to the question number, for example 4.1.8 CBD.

sphere of influence, low-order services, central place, range of goods, conurbation, megalopolis, threshold population, high-order services

4.1.1 The merging of many towns and cities

4.1.2 Largest highly urbanised area

4.1.3 Urban area providing urban goods and services to the surrounding rural population

4.1.4 The area from which a business draws its customers

4.1.5 Maximum distance a consumer is willing to travel to purchase goods

4.1.6 Minimum number of people required before a particular good / service can be provided in an area

4.1.7 Services that are required on a daily basis

(7x1) (7)

4.2 Choose which sector, the FORMAL or INFORMAL sector is described in the sentences below. Only write down FORMAL or INFORMAL next to each question number.

4.2.1 The sector in which businesses are not registered

4.2.2 The sector in which many people are self-employed

4.2.3 The sector which contributes to the GDP of a country

4.2.4 The sector which shows a small profit margin

4.2.5 The sector which operates mainly from office blocks

4.2.6 The sector which is not regulated by government

4.2.7 The sector which is negatively impacted on due to union strikes

4.2.8 The sector that suffers the most during an economic recession (8x1) (8)

4.3 Refer to FIGURE 4.3 showing a scenario in an informal settlement.

4.3.1 State TWO reasons why FIGURE 4.3 is considered an informal settlement. (2x1) (2)

4.3.2 List building materials that are typical of this illustrated informal settlement. (2x1) (2)

4.3.3 Give TWO reasons why informal settlements are a problem for the Departments of Environmental Affairs and Health. (2x2) (4)

4.3.4 In a paragraph of approximately EIGHT lines, explain how the government can upgrade living conditions in informal settlements. (4x2) (8)

4.4 Refer to the article in FIGURE 4.4 on the closing down of Pilgrim's Rest.

4.4.1 Pilgrim's Rest is facing the status of a ghost town. What is a *ghost town*? (1x1) (1)

4.4.2 Quote a possible reason why the Department of Public Works ordered the closing of businesses. (1x1) (1)

4.4.3 Suggest how the shutting down of businesses in Pilgrim's Rest will impact on rural-urban migration to other parts in Mpumalanga. (1x2) (2)

4.4.4 Suggest TWO negative social impacts that this closing down of businesses will have on the population of Schoonplaas. (2x2) (4)

4.4.5 Explain how the Department of Tourism can intervene in order to stop this town from becoming a ghost town. (3x2) (6)

4.5 Study FIGURE 4.5 on the Phalaborwa SDI.

4.5.1 State the purpose of Spatial Development Initiatives (SDI). (1x1) (1)

4.5.2 Name TWO provinces that will benefit from the Phalaborwa SDI. (2x1) (2)

4.5.3 What was the initial goal of the Phalaborwa SDI? (1x1) (1)

4.5.4 Mention how this project contributes to tourism development in the area. (1x2) (2)

4.5.5 Explain, in a paragraph of approximately EIGHT lines, the positive and negative environmental impact of tourism development in the Phalaborwa SDI. (4x2) (8)

4.6 Study FIGURE 4.6 on employment in the economic sectors of South Africa.

4.6.1 Which economic sector employs the most and the least people respectively in South Africa? (2x1) (2)

4.6.2 Suggest how the employment percentage per sector indicates the level of development of South Africa. (2x2) (4)

4.6.3 Describe why improvement in technology in a country may increase unemployment. (1x2) (2)

4.6.4 Explain how an improvement in technology could improve exports. (2x2) (4)

4.6.5 Discuss how an increase in exports can create employment. (2x2) (4)

[75]

TOTAL: 225

END