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GRADE 11

NOVEMBER 2017

GEOGRAPHY P1

MARKS: 225

TIME: 3 hours

This question paper consists of 16 pages and a 12 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. Number the questions correctly according to the numbering system used in this question paper. Number all your questions in the CENTRE of the line.
5. Leave a line between subsections of questions answered.
6. Start EACH question on a NEW page.
7. Do NOT write in the margins of the ANSWER BOOK.
8. Illustrate your answers with labelled diagrams, where possible.
9. Mark allocation is as follows:
 $2 \times 1 = 2$ means that TWO facts are required for ONE mark each
 $2 \times 2 = 4$ means that TWO facts are required for TWO marks each
10. If words/action verbs like **Name, Identify, Provide, Classify**, are used in a question, ONE word answers are acceptable.
If words/action verbs like **Discuss, Define, Explain, Comment, Evaluate, Justify, Suggest** and **Substantiate** are used in a question, FULL sentences or phrases are required.
All paragraph questions must be answered in FULL sentences.
When answering paragraph questions, LISTING and BULLETS are not allowed.
11. Write neatly and legibly.

SECTION A: PHYSICAL GEOGRAPHY – THE ATMOSPHERE AND GEOMORPHOLOGY**QUESTION 1**

- 1.1 Refer to FIGURE 1.1, which represents the development of El Niño conditions. Choose a letter from the figure that best describes the statements below. Each letter/description refers to the processes in the development of the El Niño event.
- 1.1.1 Rising air and rainfall occurs over the central Pacific Ocean
- 1.1.2 The continent where the fishing industry is negatively affected by these conditions
- 1.1.3 During El Niño years the tropical easterlies become weaker
- 1.1.4 The Walker circulation is disturbed during El Niño years
- 1.1.5 Descending, dry air occurs on the eastern parts of Australia
- 1.1.6 Upwelling in the eastern Pacific Ocean decreases
- 1.1.7 Warm air that usually converges over the Western Pacific Ocean now converges over the Central and Eastern Pacific Ocean during El Niño years (7 x 1) (7)
- 1.2 FIGURE 1.2 illustrates slope elements. Choose the correct slope element for the descriptions below. A slope element can be used more than once.
- 1.2.1 The slope element with the least soil coverage
- 1.2.2 The slope element with a constant gradient
- 1.2.3 The slope element where the construction of buildings and infrastructure is possible
- 1.2.4 The feature that indicates the transition from one slope element to another
- 1.2.5 The slope element where the exposed rocks are usually unequal as weathering enlarged the joints and cracks in the rocks
- 1.2.6 Rockfalls are the main mass wasting process on this slope element
- 1.2.7 The slope element with a convex shape
- 1.2.8 The slope element where the accumulation of weathered material is not possible (8 x 1) (8)

- 1.3 Study FIGURE 1.3, showing global air circulation.
- 1.3.1 Name the atmospheric cells **A** and **B** respectively. (2 x 1) (2)
- 1.3.2 Provide ONE characteristic of cell **A**. (1 x 1) (1)
- 1.3.3 Suggest ONE reason why the southern hemisphere would be experiencing winter on the sketch. (1 x 2) (2)
- 1.3.4 Refer to wind belts **C** and **D**.
- (a) Name the wind belt that the arrows **C** and **D** indicate. (1 x 1) (1)
- (b) Explain why there is a difference in direction between the winds at **C** and **D**. (1 x 2) (2)
- 1.3.5 Comment on the reason why the winds at **E** change direction. (1 x 2) (2)
- 1.3.6 Refer to zone **F**.
- (a) Identify the zone at **F**. (1 x 1) (1)
- (b) Describe how this zone at **F** causes the heavy clouds in the atmosphere above it. (2 x 2) (4)
- 1.4 Refer to the synoptic weather map in FIGURE 1.4.
- 1.4.1 Name the lines that join places of equal pressure on synoptic weather maps. (1 x 1) (1)
- 1.4.2 What is the atmospheric pressure of the line marked **B**? (1 x 1) (1)
- 1.4.3 Name the atmospheric feature at **C** and the atmospheric pressure system at **D**. (2 x 1) (2)
- 1.4.4 Give TWO reasons why the synoptic weather map is representative of summer in South Africa. (2 x 1) (2)
- 1.4.5 Refer to weather station **E**:
- (a) What is the wind direction of weather stations **E**? (1 x 1) (1)
- (b) In a paragraph of approximately EIGHT lines, explain how Coriolis and pressure gradient forces influenced the wind direction at these weather stations at **E**. (4 x 2) (8)

- 1.5 Refer to the photograph of the Grand Canyon in FIGURE 1.5.
- 1.5.1 Name the type of rock that the canyon is associated with. (1 x 1) (1)
- 1.5.2 Describe the slopes of the landform in the photo. (1 x 2) (2)
- 1.5.3 Explain why the slopes of the canyon does not have a smooth concave or convex shape. (2 x 2) (4)
- 1.5.4 Refer to the area at **A**:
- (a) What type of erosion occurs at **A**? (1 x 1) (1)
- (b) Explain how the erosion (answer to QUESTION 1.5.4(a)) will eventually lead to the formation of a gorge. (2 x 2) (4)
- 1.5.5 Comment on the benefits of the river, in this landscape, for agricultural activities. (1 x 2) (2)
- 1.6 Refer to FIGURE 1.6, which illustrates the development of a massive igneous rock, and the subsequent development of a granite dome.
- 1.6.1 Name the intrusive igneous rock at **A**. (1 x 1) (1)
- 1.6.2 Provide TWO characteristics of the intrusion at **A**. (2 x 1) (2)
- 1.6.3 Refer to the granite dome in **stage 4**:
- (a) Name the type of weathering that granite domes are exposed to. (1 x 1) (1)
- (b) Explain how this type of weathering occurs. (2 x 2) (4)
- 1.6.4 Write a paragraph of approximately EIGHT lines to describe how granite domes are exposed to the earth's surface. (4 x 2) (8)
- [75]**

QUESTION 2

- 2.1 Refer to FIGURE 2.1 on monsoon conditions over India. Choose the correct term/word from those given in brackets.
- 2.1.1 The atmospheric pressure over the Himalayan Mountains is (high/low).
- 2.1.2 The (Atlantic/Indian) Ocean is found at **A**.
- 2.1.3 The (equator/Tropic of cancer) is the latitude line found at **B**.
- 2.1.4 (April to May/June to September) are the months being depicted by the map.
- 2.1.5 The wind direction at **C** is (southwest/northeast).
- 2.1.6 The area between **B** and **D** is known as the (tropical/mid-latitude) region.
- 2.1.7 Monsoon winds cover the earth's area on a (micro/macro) scale.
- 2.1.8 The air movement on the map causes (floods/droughts). (8 x 1) (8)

- 2.2 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 (2.2.1–2.2.7) in the ANSWER BOOK.

mesa; butte; conical hill; tectonic activity; basalt plateau; soil creep; bad lands; cap rock

- 2.2.1 The movement and processes in the earth's crust
- 2.2.2 Very rugged landscape in semi-dry and dry regions
- 2.2.3 The slopes of this landform are very regular and consist of concentric contours which are regularly spaced
- 2.2.4 A high-lying area that has been uplifted thousands of meters above the surface
- 2.2.5 Flat-topped mountains with a greater height than width
- 2.2.6 Flat-topped mountains with a greater width than height
- 2.2.7 Harder and more resistant rock that covers the less resistant rock (7 x 1) (7)

- 2.3 Study FIGURE 2.3 based on a diagram showing warm, dry winds that blow over the North American and European continents.
- 2.3.1 Provide the local names of the warm, dry winds indicated by **A** and **B** on the different continents. (2 x 1) (2)
- 2.3.2 Is the wet adiabatic lapse rate found on the windward or leeward side? (1 x 1) (1)
- 2.3.3 Explain why the wind is dry in **A** and **B** on the maps. (2 x 2) (4)
- 2.3.4 In a paragraph of approximately EIGHT lines, evaluate the influence that these warm, dry winds have on economic activities in the areas indicated on the different maps. (4 x 2) (8)
- 2.4 Study FIGURE 2.4, based on a map of South Africa, and a table representing the temperature and rainfall data of selected cities/towns.
- 2.4.1 What does the abbreviation **mT** stand for? (1 x 1) (1)
- 2.4.2 Mention the reasons why the mT air of Port Nolloth and Durban differs. (2 x 1) (2)
- 2.4.3 Explain how the currents along the west and east coast of South Africa influence the climate of Port Nolloth and Durban respectively. (2 x 2) (4)
- 2.4.4 Discuss how the movement of the ITCZ influences the different January and July temperatures of the places indicated on the map. (2 x 2) (4)
- 2.4.5 Account for the larger temperature variations of Bloemfontein, compared to the temperature variations of Port Nolloth and Durban. (2 x 2) (4)
- 2.5 Study FIGURE 2.5 which illustrates inclined strata.
- 2.5.1 Name the landforms **A** and **B**. (1 + 1) (2)
- 2.5.2 Scarp retreat will occur at both landforms.
- (a) What is *scarp retreat*? (1 x 1) (1)
- (b) In which direction will scarp retreat (in the diagrams) occur? (1 x 1) (1)
- (c) Explain your answer to QUESTION 2.5.2(b). (1 x 2) (2)
- 2.5.3 In a paragraph of approximately EIGHT lines, comment on the significance of both landforms (**A** and **B**) for human activities (4 x 2) (8)

2.6 Refer to FIGURE 2.6 which illustrates a type of mass movement.

2.6.1 Name the type of mass movement illustrated in the sketch. (1 x 1) (1)

2.6.2 Provide TWO pieces of evidence from the sketch to substantiate your answer to QUESTION 2.6.1. (2 x 1) (2)

2.6.3 Refer to the insert at **X**.

(a) Is the speed of movement of sand grains at **X**, 15 km per year or 1 cm per year? (1 x 1) (1)

(b) Explain TWO ways in which expansion and subsidence of soil grain can occur. (2 x 2) (4)

(c) Evaluate how the amount of rainfall and slope steepness will influence the movement at **X**. (2 x 2) (4)

2.6.4 Describe TWO ways to reduce or prevent this type of mass movement.

(2 x 2) (4)
[75]



SECTION B: DEVELOPMENT AND NATURAL RESOURCES**QUESTION 3**

- 3.1 Choose a term from COLUMN B that matches the description in COLUMN A. Write ONLY the letter (A–I) next to the question number (3.1.1–3.1.8), for example 3.1.9 J.

COLUMN A		COLUMN B	
3.1.1	The development of industries in a country	A	Globalisation
3.1.2	Economic activities where natural resources are directly extracted from nature	B	Self-sufficient
3.1.3	Involves the rapid expansion in the movement of goods, services, capital, ideas and people around the world	C	Multiplier effect
3.1.4	The type of agriculture where what is produced is consumed by the farmer and his family	D	Informal sector
3.1.5	An increase in activity and investment in one area triggers off activity and investment in other areas	E	Industrialisation
3.1.6	The economic activity where providing services and trade are the main activities	F	Foreign exchange
3.1.7	When a country or region relies on itself and does not need help from other regions or countries	G	Primary activities
3.1.8	This sector is not part of the formal economic sector, and usually consists of self-employed individuals	H	Subsistence
		I	Tertiary activity

(8 x 1) (8)

- 3.2 Study FIGURE 3.2 which illustrates soil forming factors and soil horizons. Answer the questions below by providing a term/word from the figure that best fits the description.
- 3.2.1 Name a passive soil forming factor
- 3.2.2 In which horizon does the parent rock occur?
- 3.2.3 Name the horizon that consists of weathered parent material
- 3.2.4 The horizon that is aided by the decomposition of animal and plant material
- 3.2.5 The horizon where leaching occurs
- 3.2.6 The horizon that determines the texture, mineral composition and weathering speed of the soil
- 3.2.7 The active soil forming factor that determines the process of salination (7 x 1) (7)
- 3.3 Study FIGURE 3.3, illustrating indicators of development.
- 3.3.1 What does the abbreviation *HDI* stand for? (1 x 1) (1)
- 3.3.2 Name ONE of the HDI indicators of development. (1 x 1) (1)
- 3.3.3 Refer to the photo indicating Developed vs. Developing countries and the HDI and GINI-coefficient data.
- (a) Match **X** and **Y** to either developed or developing countries respectively. (2 x 2) (4)
- (b) Clearly distinguish between *HDI* and *GINI-coefficient data*. (2 x 2) (4)
- 3.3.4 Explain how the population growth of developing countries will have a negative influence on development. (2 x 2) (4)

3.4 FIGURE 3.4 depicts a balance of trade situation.

3.4.1 Define the term *balance of trade*. (1 x 1) (1)

3.4.2 The cartoonist depicts a negative balance of trade.

(a) Why would you agree with the statement that the balance of trade is negative? (1 x 1) (1)

(b) Provide TWO protectionist policies that more developed countries implement to restrict imports. (2 x 1) (2)

3.4.3 Protectionist policies restrict fair trade. Explain how fair trade could help struggling countries to have a better balance in their trade. (2 x 2) (4)

3.4.4 In a paragraph of approximately EIGHT lines, evaluate the importance of a positive balance of trade for countries. (4 x 2) (8)

3.5 Study FIGURE 3.5, showing data information about South Africa's energy usage and needs.

3.5.1 Which household unit consumes the most energy in South Africa? (1 x 1) (1)

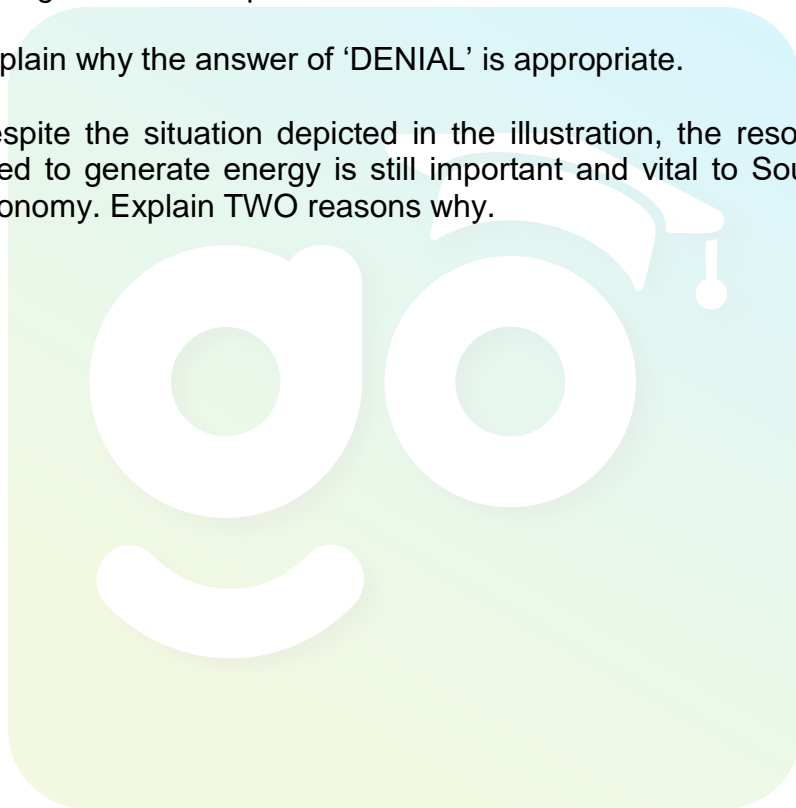
3.5.2 State how the projected population from 2010 to 2030 will influence energy consumption. (1 x 1) (1)

3.5.3 Describe the trend in the graph which illustrates South Africa's households with and without electricity. (1 x 2) (2)

3.5.4 Explain how the information in the graphs will negatively impact the economy of South Africa. (2 x 2) (4)

3.5.5 In a paragraph of approximately EIGHT lines, comment on how individuals in households of South Africa can use electricity more sustainably. (4 x 2) (8)

- 3.6 Refer to FIGURE 3.6, a cartoonist's impression of the use of a conventional energy source.
- 3.6.1 Name the type of energy that the industries in the cartoon make use of. (1 x 1) (1)
- 3.6.2 The question being asked in the cartoon is contrary (opposite) to what is depicted in the industries. Substantiate this statement. (1 x 2) (2)
- 3.6.3 Refer to the gasses at **A**, being emitted by the industries.
- (a) Name ONE type of gas being emitted by the industries. (1 x 1) (1)
- (b) Account for TWO types of atmospheric consequences that these gasses are responsible for. (2 x 1) (2)
- 3.6.4 Explain why the answer of 'DENIAL' is appropriate. (2 x 2) (4)
- 3.6.5 Despite the situation depicted in the illustration, the resource being used to generate energy is still important and vital to South Africa's economy. Explain TWO reasons why. (2 x 2) (4)
- [75]**



QUESTION 4

- 4.1 Development models, although heavily criticised, give us an idea of the development of places within a time frame. Choose the development model that the descriptions below refer to. Write ONLY one model next to the question number (4.1.1–4.1.7)

MODELS

Rostow's model
Core-periphery model
Sustainable development model

- 4.1.1 This model has been developed from the dependency theory.
- 4.1.2 This model has a 'bottom-to-top' rather than a 'top-to-bottom' approach to development.
- 4.1.3 This model was developed in the 1950's and consists of linear development stages.
- 4.1.4 This model is based on the idea that if there is worldwide growth in wealth, only the richer countries benefit from this wealth.
- 4.1.5 This model was based on the European experience and does not accommodate developing countries' development.
- 4.1.6 This model is based on the fact that development cannot take place if there is no balance between economic, social and environmental development.
- 4.1.7 According to this model, economic growth is centred on a few areas and the less developed areas depend on these developed centres.
- (7 x 1) (7)

- 4.2 Identify the use of the following natural resources as renewable or non-renewable. Write **ONLY** renewable or non-renewable next to the question number (4.2.1–4.2.8).
- 4.2.1 A company that uses bio-thermal methods to generate energy.
 - 4.2.2 An iron company that makes corrugated iron for roofs.
 - 4.2.3 A commercial farmer that cultivates organic vegetables.
 - 4.2.4 A sawmill that cuts wood for the furniture industry.
 - 4.2.5 A company that uses filters on their chimneys to reduce carbon dioxide emissions.
 - 4.2.6 A mining company which produces gold for the jewellery industry.
 - 4.2.7 A petrochemical company that manufactures fuel for motor vehicles.
 - 4.2.8 A utility company that provides huge amounts of water to the municipality. (8 x 1) (8)
- 4.3 Refer to FIGURE 4.3, an extract on the initiative of the Umsizi organisation in community development.
- 4.3.1 What is *community development*? (1 x 1) (1)
 - 4.3.2 Name ONE focus area and ONE aim from the extract of the community development projects organised by Umsizi. (2 x 1) (2)
 - 4.3.3 Mention why crop production training is sustainable and widespread within the Umsizi framework. (1 x 2) (2)
 - 4.3.4 Explain why monitoring of community-based projects is important to its success for sustainable development. (2 x 2) (4)
 - 4.3.5 Provide reasons why community development is important to a country's broader development aims. (3 x 2) (6)

- 4.4 Study FIGURE 4.4, which illustrates the effects of aid on the development of Third World countries.
- 4.4.1 Would you regard the type of aid in the illustration as being bilateral or multilateral? (1 x 1) (1)
- 4.4.2 Provide a reason for your choice in QUESTION 4.4.1. (1 x 1) (1)
- 4.4.3 Explain why the aid provided is unsustainable as depicted in the illustration. (1 x 2) (2)
- 4.4.4 Three types of aid, technical, conditional or humanitarian may be provided to recipient countries.
- (a) Name the type of aid depicted in the illustration. (1 x 1) (1)
- (b) Substantiate your answer to QUESTION 4.4.4(a). (1 x 2) (2)
- 4.4.5 In a paragraph of approximately EIGHT lines, describe how aid might have a positive impact on development in Third World countries. (4 x 2) (8)
- 4.5 Refer to FIGURE 4.5, showing the use of a non-conventional energy method.
- 4.5.1 Which non-conventional energy is being depicted by the cartoonist? (1 x 1) (1)
- 4.5.2 Name TWO disadvantages, illustrated in the diagram, of this type of energy being generated. (2 x 1) (2)
- 4.5.3 Describe TWO advantages of this type of energy being generated. (2 x 2) (4)
- 4.5.4 Refer to the heading 'Greening the Land'.
- (a) What is meant by the heading '*Greening the Land*'? (1 x 2) (2)
- (b) Explain how greening of the land will benefit the economy of South Africa. (3 x 2) (6)

4.6 Study FIGURE 4.6 showing the importance of recycling and reuse.

4.6.1 What is the meaning of *sustainable use of resources*? (1 x 1) (1)

4.6.2 Differentiate between *recycle* and *reuse*. (1 x 2) (2)

4.6.3 Discuss how recycling can cause economic development. (2 x 2) (4)

4.6.4 In a paragraph of approximately EIGHT lines, evaluate the impact of recycling and reuse for environmental sustainability. (4 x 2) (8)
[75]

GRAND TOTAL: 225

