Education and Sport Development

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NORTH WEST PROVINCE

# PROVINCIAL ASSESSMENT

## GRADE 10

## GEOGRAPHY P1

## JUNE 2018

## QUESTION PAPER

**MARKS: 140**

**TIME: 2 hours**

**This question paper consists of 9 pages (including cover page) and also Included ANNEXURE of 8 Pages**

INSTRUCTIONS TO CANDIDATES

1. Answer all questions
2. Write neatly and legibly.
3. Number the questions exactly as they are numbered on the question paper.

Question 1

1.1 From each of the following lists, write down the 'ODD ONE OUT'.

Example: Lemons, oranges, apples, limes
Answer: apples (the others are all citrus fruit)

1.1.1 Lopolith, batholiths, lava plateau, magma 1x1(1)

1.1.2 Andes, Cape Fold Mountains, Himalayas, Rockies 1x1(1)

1.1.3 Compression, reverse fault, block mountain, tension 1x1(1)

1.1.4 Trench, subduction zone, oceanic plate, Mid-Atlantic Ridge 1x1(1)

1.1.5 Caldera, epicentre, focus, seismic waves 1x1(1)

1.1.6 Altitude, isotherm, latitude, ocean currents 1x1(1)

1.1.7 Hygrometer, minimum and maximum thermometer, Stevenson Screen, rain gauge 1x1(1)

1.1.8 Dew, frost, hail, snow 1x1(1)

1.1.9 Condensation, evaporation, precipitation, inversion 1x1(1)

1.1.10 Cold current, large seasonal temperature range, maritime climate, west coast 1x1(1)

**[10]**

1.**2** Refer to **ANNEXURE Figure 1.2** showing the layers of the Atmosphere and answer the following questions

1.2.1 Name the atmospheric layer where all weather occurs. 1x2(2)

1.2.2 Identify the transition layer that occurs between the stratosphere and the troposphere. 1x2(2)

1.2.3 Describe what happens to the temperature in the layer you have identified in question 1.2.2 1x2(2)

1.2.4 Identify an atmospheric layer with a negative temperature lapse rate, where the temperature increases with an increase in altitude. 1 x 2(2**)**

**[8]**

1.3 Refer to **Figure 1.3** showing Ocean currents in South Africa and answer the following questions:

1.3.1 Identify the ocean currents labelled 1 and 2 on the map. 2 x1(2)

1.3.2 Describe how the ocean current labelled 1 on the map will influence the temperature on the eastern part of South Africa? 2X2 (4)

1.3.3 How does ocean current at 2 influence the temperature on the western part of South Africa? 2x2(4)

**[10]**

1.4 Refer to **Figure 1.4** Cartoon- Ozone and answer the following questions

1.4.1 A friend who does not study Geography has asked you what the ozone layer is. Explain to him/her what it is. Use the following sub-headings in your explanation:

1.4.1.1 Where it is located? 1x1(1)

1.4.1.2 What is the importance of Ozone layer? 1x1(1)

1.4.2 Give the two main substances that cause ozone depletion and explain how the process occurs. 2x1+2(4)

1.4.3 If you were a doctor in the part of the world with the greatest amount of ozone thinning, what two types of medical conditions would you expect to treat as a result of this thinning? 1x2(2)

**[8]**

1.5 Read the Case Study **Figure 1.5** on Global Warming on Mount Kilimanjaro, and answer the questions that follow:

1.5.1 What is happening to the ice cap of Kilimanjaro? 1x1(1)

1.5.2 What is causing this (mentioned in 1.5.1 to happen? 1x1(1)

1.5.3 Is this happening elsewhere? 1x1(1)

1.5.4 How does this affect mountain climbing 1x1(1)

**[4]**

1.6 Refer to **Figure 1.6** showing The Structure of the earth and answer the questions that follow:

1.6.1 Label the layers **A** and **C** shown on Figure 1.6 2x1(2)

1.6.2 Layer **A** consists of magma.

1.6.2.1 Explain what magma is. 1x1(1)

1.6.2.2 When magma solidifies, what type of rock does it form? 1x1(1)

1.6.3 The crust is the solid outer layer which consists of the continental crust and the oceanic crust.

1.6.3.1 Which part is lighter? (1x1)(1)

1.6.3.2 Which material is the lighter part made of? (1x1)(1)

**[7]**

1.7 Refer to **Figure 1.7** The Rock Cycle and answer the following questions

1.7.1. Name the type of rock that forms:

1.7.1.1 from compaction of sediments. 1x1(1)

1.7.1.2 from cooling and crystallisation of magma below the Earth's surface 1x1(1)

1.7.1.3 from cooling and crystallisation of magma above the Earth's surface. 1x1(1)

1.7.1.4 when minerals in rocks underground are changed by heat and pressure. 1x1(1)

1.7.2.

1.7.2.1 Give the name for molten rock or semi-molten rock below the Earth's surface. 1x1(1)

1.7.2.2 Which types of rock become molten rocks? 1x1(1)

**[6]**

1.8 Refer to the diagram **Figure 1.8** which illustrates different types of plate boundaries and answer the following questions.

1.8.1 Identify the different plate boundaries labelled A and C. 2 x1(2)

1.8.2 Identify a landform that will develop at plate boundaries as illustrated by sketch C. 1x1(1)

1.8.3 Explain how a subduction zone develops. 1x1(1) **[4]**

1.9 Examine Cartoon **Figure 1.9** showing the movement of the continents over 50 million years

1.9.1 Name the theory that is described in the cartoon. 1x1(1)

1.9.2 Name the super continent that the two continents in the cartoon belonged to 50 million years ago. 1x1(1)

1.9.3 Explain the difference between divergent and convergent plate boundaries. 2x2(4)

1.9.4 In a **paragraph** of not more than **4 lines**, discuss **FOUR** pieces of **EVIDENCE** to **prove** that the continents were once joined. 4x2(8)

**[14]**

## QUESTION 2

2.1 Match the term in **COLUMN A** with the correct explanation in **COLUMN B**. Write down only the number and corresponding letter down. Example 2.1.11 M

| COLUMN A | COLUMN B |
|---|---|
| 2.1.1 Conduction<br>2.1.2 Richter scale<br>2.1.3 Igneous rock<br>2.1.4 Dew point temperature<br>2.1.5 Convection rainfall<br>2.1.6 Sedimentary rock<br>2.1.7 Seismograph<br>2.1.8 Frontal rainfall<br>2.1.9 Terrestrial radiation<br>2.1.10 Crystallisation | A. Rock which consists of many layers<br>B. Rock which is massive and becomes cracked and jointed over time<br>C. The instrument that measure the level of severity of earthquakes<br>D. The instrument used to measure earthquakes<br>E. Rainfall experienced during winter in the south western parts of South Africa<br>F. Rainfall experienced during summer in the interior of South Africa<br>G. The temperature at which condensation begins<br>H. When water vapour changes to ice<br>I. Short wave radiation<br>J. Long wave radiation<br>K. Transfer of heat through contact between particles<br>L. Transfer of heat energy by movement of air as it rises |

1x10(10)

2.2 Study Figure **2.2**, illustrating relief rain in the Drakensberg, and answer the questions that follow:

2.2.1 Identify the windward side and the leeward side of the slope by matching the correct term to the labels A and B on the sketch 1x2 (2)

2.2.2. Explain what a rain shadow is. 1 x 2(2)

2.2.3. The rain that occurs here is called relief or orographic rain. Explain how this rain develops. 3 x 2(6)

**[10]**

2.3 Refer to **Figure 2.3**.The Hydrological cycle and answer the following questions

2.3.1 A is the largest reservoir of water on Earth. 1x1(1)

2.3.2 B is the process whereby water changes to water vapour. 1x1(1)

2.3.3 C is the process whereby water vapour changes to water. 1x1(1)

2.3.4 D is any form of moisture released from the atmosphere to the Earth's surface. 1x1(1)

2.3.5 E is water that flows on the Earth's surface after it has rained. 1x1(1)

2.3.6 F is the process whereby moisture is released from plants into the atmosphere. 1x1(1)

2.3.7 G is the process whereby water reaches the groundwater. 1x1(1)

**[7]**

Refer to **Figure 2.4** Synoptic Weather Chart and answer the following questions:

2.4.1. What do we call the lines that show the atmospheric pressure? 1x2(2)

2.4.2. Explain why some station models are circles and some are triangles. 1x2(2)

2.4.3. Give the following information from the synoptic weather map:

2.4.3.1 the date 1x1(1)

2.4.3.2 South African Standard Time 1x1(1)

2.4.3.3 the Universal Time 1x1(1)

2.4.4 Standard atmospheric pressure at sea level is 1 000 hPa. Identify:

2.4.4.1 the highest atmospheric pressure 1x1(1)

2.4.4.2 the lowest atmospheric pressure 1x1(1)

2.4.5. Which part of South Africa is experiencing:

2.4.5.1 cloudy conditions 1x1(1)

2.4.5.2 clear, sunny conditions . 1x1(1)

2.4.6. The city of Port Elizabeth has the strongest wind speed. Give the wind speed. 1x2(2) **[13]**

2.5 Study **Figure 2.4** showing a crustal process and answer the following questions:

2.5.1. Name the crustal block labelled A 1x1(1)

2.5.2. Name the crustal block labelled B 1x1(1)

2.5.3. Name the type of fault shown. Give a reason for your answer. 1x1+2 (3)

2.5.4 Name the fault element labelled:

2.5.4.1 CE 1x1(1)

2.5.4.2 CFGE 1x1(1)

2.5.5. Name the type of rock shown. Give a reason for your answer. 1x1+2(3)

2.5.6. What are the forces responsible for the formation of land forms labelled A and B? 1x2(2) **[12]**

2.6

Refer to **Figure 2.6** Earthquakes (Case study) and answer the questions that follow:

2.6.1. What was the Richter scale reading for this earthquake? 1x1(1)

2.6.2. What is an epicentre? 1x2(2)

2.6.3. Give two reasons from the extract which shows that the earthquake was powerful. 2x2(4)

2.6.4. Suppose you are a member of the aid team that helped with the rescue work in New Zealand after the earthquake. List five matters that would receive your attention. 1x5(5)

2.6.5. Discuss any three strategies that could be followed to make sure that few people lose their lives in an earthquake. 2x3(6)

**[18]**

**TOTAL=140**