

PHOENIX NORTH GEOGRAPHY CLUSTER

GRADE 11 – NOVEMBER EXAMINATIONS – 2019

GEOGRAPHY PAPER 2

TIME: 1 ½ HOURS

MARKS: 75

NAME: _____

GRADE/DIV: 11 _____

RESOURCE MATERIAL:

1. An extract from Topographical map 2930CB PIETERMARITZBURG.
2. An Orthophoto map 2930CB of PIETERMARITZBURG.

INSTRUCTIONS TO LEARNERS:

1. Write your Name and Grade/Div on this cover page.
2. Answer all questions in the spaces provided.
3. Show all calculations and formulae where applicable.
4. You may use a non-programmable calculator.
5. Check that this paper has 4 questions and 11 pages

Question 1: Multiple Choice Questions

The questions below are based on the 1:50 000 topographical map of Pietermaritzburg and the 1:10 000 orthophoto map of Pietermaritzburg.

Choose the correct answer from the alternatives given and write down the letter of the correct answer below.

1.1) The reference number 2930CB refers to

- A. 29° S Latitude and 30° N Latitude
- B. 29° N Latitude and 30° S Longitude
- C. 29° S Latitude and 30° E Longitude
- D. 29° S Latitude and 30° W Longitude

1.2) The map index of the area south west of Pietermaritzburg is

- A. 2930 CC
- B. 2930 DC
- C. 2930 CA
- D. 2930 DA

1.3) The contour interval of the orthophoto map is _____ metres.

- A. 5
- B. 20
- C. 10 000
- D. 50 000

1.4) The number 3 on the orthophoto map represents a

- A. Valley
- B. Settlement
- C. Railway Line
- D. Showground

- 1.5) Feature number 2 on the orthophoto map represents a
- A. Hospital
 - B. Veterinary Station
 - C. Water Purification Plant
 - D. Shopping Centre
- _____
- 1.6) The scale of the orthophoto map is _____ times bigger than the topo map.
- A. 10
 - B. 20
 - C. 5
 - D. 10 000
- _____
- 1.7) The main activity practised in H7 on the topographical map is
- A. Primary
 - B. Tertiary
 - C. Secondary
 - D. Quarternary
- _____
- 1.8) The national road that passes through the town of Pietermaritzburg is the ...
- A. N2
 - B. N3
 - C. N1
 - D. N4
- _____
- 1.9) The Rietspruit River in D1 is flowing in a _____ direction.
- A. Northerly
 - B. Southerly
 - C. Easterly
 - D. South Easterly
- _____

1.10) The main factor that limits expansion of the city in the north eastern part of the topographical map is

- A. Huge tracts of forests
 - B. Unsuitable soil
 - C. A steep gradient
 - D. Crop for agricultural land
-

1.11) What is the highest point of Town Hill on the orthophoto map?

- A. 251 m
 - B. 820 m
 - C. 825 m
 - D. 836,3 m
-

1.12) The land use at point number 5 on the orthophoto map is a

- A. Settlement
 - B. Road
 - C. Railway Line
 - D. Freeway
-

1.13) The main primary activity at point number 1 on the orthophoto is ...

- A. Stock Farming
 - B. Mining
 - C. Forestry
 - D. Crop Cultivation
-

1.14) The Bayne's Spruit River in F11 is a/an

- A. Perennial River
 - B. Exotic River
 - C. Periodic River
 - D. Non-Perennial River
-

1.15) Ottos Bluff in A7 is situated in the _____ of a slope.

- A. Talus
- B. Cliff
- C. Crest
- D. Pediment

(15 x 1) [15]

Question 2: Map Calculation and Techniques

2.1.1) Calculate the length of the line indicated by the number 3 on the orthophoto map.

(2)

2.1.2) Calculate the average gradient between trig beacon 266 (F5) and the spot height 1202 (E2). (5)

Use this formula:

$$\text{Gradient} = \frac{V1}{HE}$$

2.1.3) Interpret your above answer. (1)

2.4) Vertical Exaggeration

2.4.1) Calculate the vertical exaggeration of the land assuming the horizontal scale is 1:50 000. The vertical scale is 0,5 cm representing 50 m. (5)

Use this formula:

$$VE = \frac{VS}{HS}$$

2.4.2) Why is there a need to exaggerate the vertical scale? (1)

2.5) Determine the magnetic declinations for 2019. Use the following headings. (5)

MD for current year: _____

Annual Change: _____

Total Change: _____

MD for 2019: _____

2.6) What is the purpose of calculating the MD?

(1)

[20]

Question 3: Application and Interpretation

3.1) Does the mapped area receive reliable or seasonal rainfall? Give 2 reasons evident on the topomap. (3)

Answer:

Reasons:

3.2) Refer to the Moollman Dam in C2. List one advantage and one disadvantage of this dam. (2)

Advantage:

Disadvantage:

3.3) The industrial area of CampsDrift (H8) enjoys a suitable location. Give three reasons to support this statement. (3)

3.4) The area North of Oak Park (D6) is steep. Suggest two steps that the town engineers could implement to reduce the possible impact of mass movement. (2 x 2) (4)

3.5) The Baynes Spruit River runs through the industrial area of Rosedale (E10).

3.5.1) How will industrial pollution affect this river? (2)

3.5.2) State one sustainable measure to address river pollution. (2)

3.6) Refer to the golf course in G11.

How did the town planners reduce the wind speed? (2)

3.7) Refer to point number 1 on the orthophoto map.

3.7.1) Identify the land use at number 1. (1)

3.7.2) Give two ways how the land use at point number 1 impacts positively on land use number 5. (2)

3.8) Give two pieces of evidence that suggests that Pietermaritzburg has a rich historical heritage. (2)

3.9) Why does the sewerage works in I6 have a suitable location? (2)

[25]

Question 4: Geographical Information Systems – GIS

4.1) What is vector data? (2)

4.2) Identify the following vector data in block B9. (3)

A point feature:

A line feature:

A polygon feature:

4.3) Explain how the line feature above, advantaged the residents in this block. (2)

4.4) State two disadvantages of using vector data. (2)

Refer to the topographic map and orthophoto map. The statistics below refer to selected suburbs in Pietermaritzburg and the percentage (%) increase in crime levels from 2015 to 2016

PERCENTAGE (%) INCREASE IN CRIME LEVELS			
TYPE OF CRIME	SUBURBS		
	Townhill (F7)	Mountain Rise (F1)	Plessislaer (I6)
Housebreaking	18,6%	11,3%	23,4%
Car Hijacking	100%	177,8%	36,4%

(Adapted from SAPS crime statistics 2015-16 by Theuns Kruger, Graphic 24)

4.5.1) Name the way in which the data above could have been collected. (1)

4.5.2) Is the information in the table above primary data or secondary data? (1)

4.5.3) Which type of crime has shown the highest percentage increase in crime in these suburbs?

(1)

4.5.4) Statistics can be stored in a database for strategic planning by the police force.

Explain the term database.

(1)

4.5.5) Name the instrument that the SAPS would use to locate places in Pietermaritzburg that they are not familiar with. (1)

4.5.6) How will the process of data security assist the police in ensuring that their information is protected? (1)

[15]

GRAND TOTAL: [75]

QUESTION 3

3.1) 3.1.1. MEDC

3.1.2. LEDC

3.1.3. MEDC

3.1.4. LEDC

3.1.5. MEDC

3.1.6. MEDC

3.1.7. MEDC

3.1.8. LEDC

3.2

3.2.1 C

3.2.2 E

3.2.3 F

3.2.4 A

3.2.5 B

3.2.6 G

3.2.7 D.

3.3

3.3.1 Poverty ✓

Aids ✓

Hunger ✓

Debt ✓

(ANY 2)

(2)

* 3.3.2. The cartoonist depicts ~~the challenges~~ as obstacles /
difficulties preventing Africa from attaining development. It
is like an uphill battle for Africa to attain development ✓✓✓(3)

* 3.3.3. Aid given by wealthy nations towards stimulating the
growth of developing countries ✓✓ (2)

3.3.2. AIDS - High absenteeism workers are always sick lowers productivity, production less money made.

Hunger - People are hungry, no energy, not healthy enough to work contribute to GDP.

- Hunger leads to ~~starve~~ famine people die.
- People become desperate crime increases.

Poverty - Increased crime rates.

3.3.3 - Positive

- Emergency aid in times of disaster save lives.
- Aid helps rebuild livelihoods and housing after a disaster
- Provision of medical training, medicines and equipment can improve health and standards of living.
- ~~Essor~~ Encouraging aid - industrial development can create jobs and improve transport infrastructure.

Negative

- Aid increases the dependency of LDCs on donor countries. sometimes aid is not a gift but a loan poor countries struggle to pay back.
- Corruption - aid may not reach the people who really need it. Local politicians use it for own gain
- Infrastructure projects may end up benefitting employers more than employees.

3.3.4. Specialised medical personal can be sent in.

- Developed countries would respond to the emergency and provide crisis aid.
- Primary health care, example immunisation programs and training of nursing nurses would be provided.
- Help with education of the virus.
- Provide technical support to governments.
- Can help to protect human rights.
- Can provide water, food, medical supplies, clothing, shelter etc.
- Examples of international organisations like international Red Cross, Doctors without borders, United Nations Organisation, Gift of the Givers, World food program and others would help.
- Aid would be people focused and not country focused.
- Countries can send in soldiers / army to man quarantine stations.

(ANY 4 x 2)

(8)

3.4.

3.4.1. A type of fuel that is obtained from the ground / or Fuel that has taken million of years to form in the ground. ✓ (1)

3.4.2. Thermal Power ✓ (1)

3.4.3. 400 years ✓ (1)

3.4.4. Abundance of coal ✓

- Because of ^{the} abundance - coal is cheaper ✓
- South Africa has good quality coal ✓

(ANY 2)

3.4.4. Electricity Supply Commission.

3.4.5. - Coal powered station results in acid rain.

- Opencast mining results in ~~acid~~ environmental despoliation. ✓
- The solid waste produced by coal power contains poisonous chemicals that poison underground water supplies. ✓✓
- Coal power station release greenhouse gases (CO_2) causing global warming. ✓
- Causes respiratory problems. ✓✓

(ANY 4)

(8)

3.5.

3.5.1 Global difference in development. ✓

3.5.2. Human indicators. ✓ There are nine human indicators and one economic indicator out of ten. ✓

3.5.3. - Life expectancy depends on standards of living and levels of development. //

- A low ratio of doctors to people indicates that people can access medical help to ensure their health. //
- Literacy rates indicates the level of education, which is closely allied to the level of development in a country. //
- Nutrition indicates the access to nutritious food that gives energy. //
- Clean water is necessary for drinking and for cleaning. ✓
- There is a higher birth rate in LEDCs than MEDCs due to lack of access to clinics and education. //
- IMR is higher in LEDCs, which lack access to doctors, clean water, nutrition and education. //
- The natural increase is higher in LEDCs because the birth rate exceeds the natural death rate. //

(ANY 2)

(2/2) (4)

3.5.4. Advantages of Globalisation

- Larger markets countries are interconnected businesses can take place across borders.
- Globalisation has stimulated production, trade and economic growth.
- Globalisation has encouraged the liberalisation of trade.
- Globalisation has brought countries and regions together.
- Global governance the international community is trying to regulate global economic activities and minimise environmental damage.

Disadvantages

- It leads to the loss of family ties as people move around the world to live and work.
- It undermines a country's identity and leads to a type of cultural uniformity.
- Environmental and ecological damage and exploitation have been worsened by globalisation.
- Globalisation has enabled diseases such as HIV/AIDS and Ebola to spread more quickly over a wide area.

3.5.4. - Geographers can use economic indicators of development such as GNP, GDP, HDI and Gini-coefficient.

- The GNP - Gross National Product shows the total value of all goods and services produced by a country in year including foreign earnings.
- The human Development Index can inform geographers about the level of human development in a country in terms of life expectancy, level of education and GDP per capita.
- The Gini co-efficient indicates how wealth is shared in a country.

Social Indicators

- Geographers can analyze aspects such as the percentage of the population living in urban areas.
- Education levels and levels of literacy.
- Availability of services such as water, electricity and healthcare.
- Food and nutrition.

(ANY 4)

(4x2) = (8)

3.6

3.6.1. A non-conventional energy source which is renewable.

3.6.2. - Village is in a remote area

- It is not linked to Eskom's electricity grid.
- Financial constraints.

3.6.3. Access to clean, safe energy at home

- Use of better cooking facilities.

- Refrigerate food to reduce the risk of disease and illness. //

- Job creation in the energy sector. //

(ANY 2)

2x2 (4)

3.6.4.- Reduces dependence on fossil fuels //

- It is a renewable resource //

- It is a sustainable resource //

- Protects the environment //

- Helps diversity energy resources.

- It is a solution to global warming and climate change.

- Helps benefit the achievement of the United Nations Millennium development goals.

- It is compliant with the Kyoto Protocol

- It fulfils the aims and objectives of Agenda 21.

(ANY 2)

(4x2) (8)

Disadvantages

- Expensive to install in every household

- Only provide power during the day. / weather dependent.

- Cost of panels and equipment is expensive

Advantages

- Sun's energy is free making the process cheaper

- The process is completely non-polluting.

- Can be used in a wide variety of locations all over the world.

QUESTION 4

4.1 Terms of Trade

4.1.1 Balance of Trade

4.1.2 Balance of payments

4.1.3 Trade bloc

4.1.4 Tariff

4.1.5 P.

4.1.6

4.1.7

4.1

4.1.1. Terms of Trade ✓

4.1.2. Balance of Trade ✓

4.1.3. Balance of Payments ✓

4.1.4. Trade bloc ✓

4.1.5. Tariff ✓

4.1.6. Protectionism ✓

4.1.7. Liberalisation of trade ✓ (7x1) (7)

4.2

4.2.1 C - Natural Gas ✓

4.2.2 C - Geo thermal ✓

4.2.3 A - Biomass ✓

4.2.4 C - Uranium ✓

4.2.5 B - Solar ✓

4.2.6 A - Uranium ✓

4.2.7 A - Uranium ✓

4.2.8 D - Coal. (8x1) (8)

4.3.5) a) Impoverished community - Poor community, communities deprived of basic needs.

b) Sustainable - Be able to maintain at a certain rate or level
Use resources in a manner which does not harm the environment.

c) Rural Development - Developing rural areas in terms of infrastructure, basic needs.
Improving lives of rural people.

4.3

4.3.1. Process where community members come together to take collective action to enhance development

4.3.2. Socio-economic development of impoverished communities. ✓

Significantly improves the well-being of households in rural communities. ✓

4.3.3. It is presented to many households throughout Southern Africa ✓

All community members are invited to attend. ✓

Training covers several modules on homestead

agriculture and food security ✓✓

(ANY ONE)

(1x2) (2)

4.3.4. - The training benefits the community by educating the members of the community on topics like agriculture and food security, nutrition. ✓

- Community members develop skills and knowledge on soil fertility, crop rotation, rain water harvesting, and marketing. ✓

(2x2) (4)

4.3.5 - It helps with agricultural expansion ✓

- It centres around the development of human resources ✓

- It enhances organising and develops administrative skills ✓

- Helps with the understanding of health care and health services. ✓

- Helps with nation building. ✓

- It improves infrastructure and modern technology usage ✓

- It increases the standard of living and empowers women ✓

(ANY 3)



4.4.

4.4.1. Lighting

4.4.2. Solar energy, hydro-electricity.

4.4.3. - More financial expenses on the expansion of the energy grid and the building of power stations. ✓✓

- Pressure on current energy supply causes load shedding, which retards economic growth. ✓✓

- Extraction of more coal will exhaust the resource much quicker, with job losses and decrease in exports. ✓✓

(2+2) (4)

4.4.4. - Switch off lights in rooms where nobody is around. ✓✓

- Shower rather than bath. ✓✓

- Decrease the hot water cylinder setting by 5°C ✓✓

- Use heaters only when necessary, instead wear warm clothes. ✓✓

- Use solar power panels. ✓✓

- Change the bulbs to high efficiency, lower wattage bulb. ✓✓

- ~~Don't~~ Wash clothes in cold water rather than hot water. ✓✓

- Use the washing line rather than the tumble dryer. ✓✓

- Use few ornamental lights. ✓✓

- Open fridge door less. ✓✓

(ANY 4)

(4x2) (8)

4.5

4.5.1. Aid from international organisations, for example the UN, World Bank etc. ✓✓

4.5.2 The aid only provides a temporary solution to the problem, but does not have a long-term benefit for the community. ✓✓

4.5.3. a) Humanitarian aid ✓

b) The picture depicts a very dry environment, therefore aid during drought-strikes times ✓✓

4.5.4. It can increase the rate of economic growth. ✓✓

- Helps with the development of resources and provision of energy. ✓✓

- Encourages and helps to implement appropriate technical systems. ✓✓

- Provides employment in new industries. ✓✓

- Reduces the need for certain imported goods. ✓✓

- Helps with agricultural production through the use of modern technology. ✓✓

- Provides primary health care like the provision of injection programs and the training of nurses. ✓✓

- Helps with family planning. ✓✓

- Provides students with bursaries to study abroad. ✓✓

- Provides technical assistance to governments that implement development programs. ✓✓

- Can also help to protect human rights and dignity. ✓✓

(ANY 4)

(4x2) (8)

4.6

4.6.1. When we use the resource in such a way that future generations can also benefit from the same resource. ✓

4.6.2. Recycle is when a resource is used to make other products, whereas Reuse refers to the use of a resource more than once without destroying it. ✓✓

4.6.3 - Creates job opportunities and self-employed opportunities. ✓✓

- New machines and facilities broaden the skills and knowledge levels of workers. ✓✓

+ Less use of products, save a lot of money for individuals, which can be used somewhere else. ✓✓

(Any 2)

(2x2) (4)

4.6.4 - It reduces landfill waste ✓✓

- Conserves natural resources ✓✓

- Saves forests and other natural habitats. ✓✓

- Reduces energy consumption. ✓✓

- Decreases pollution and global warming ✓✓

(Any 4)

(4x2) (8)

4.6.4 - Learners can recycle paper, old books

- Use reusable ~~water~~ water bottles and lunch tins.

- Cool drink cans, ~~is~~ can be recycled.

- Use recycled paper

4.6.5 - Processes can be expensive to carry out

- Not everybody participates in recycling or is aware of the benefits of recycling.

