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 <u>4</u> questions and <u>11</u> 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:

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

_____

_____

_____

_____

_____

_____

_____

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]

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