GRADE 11 GEOGRAPHY YEAR END EXAMINATION PAPER 2

Total Marks: 75

Time allocated: 1 ½ hours

_____

Instructions:

- This paper is based on the 1:50 000 topographical map 2829AC HARRISMITH extract and the 1:10 000 orthophotograph 2829AC 3 **[Maps obtained from Earle, J. & Bowerman, P. (2008)** *Focus On Geography Mapbook Grade 10***. Cape Town Maskew Miller Longman (Pty) Ltd.]**
- Answer ALL the questions given in this question paper
- Show ALL calculations and formulae where applicable.

Notes on the map:

- ○ The topographic map should be printed in colour where possible, on an A4 page. If the map is printed differently, calculations may not be correct.
- ○ The area to the south and south-east of Harrismith town is made up of crop farms, as seen by the pale green area symbols.
- ○ They key for the map is given as follows:

REFERENCE

National Freeway; National Route
Arterial Route
Main Road
Secondary Road; Bench Mark
Other Road; Bridge
Track and Hiking Trail
Railway; Station or Siding
Other Railway; Tunnel
Embankment; Cutting
Power Line
Built–up Area (High, Low Density)
Buildings; Ruin
Post Office; Police Station; Store
Place of Worship; School; Hotel
Fence; Wall
Windpump; Monument
Communication Tower
Mine Dump; Excavation
Trigonometrical Station; Marine Beacon
Lighthouse and Marine Light
Cemetery; Grave

REFERENCE

International Boundary and Beacon
Provincial Boundary
Protected Area
Perennial River
Perennial Water
Non–perennial River
Non–Perennial Water
Dry Water Course
Dry Pan
Marsh and Vlei
Pipeline (above ground)
Water Tower; Reservoir; Water Point
Coastal Rocks
Prominent Rock Outcrop
Erosion; Sand
Woodland
Cultivated Land
Orchard or Vineyard
Recreation Ground
Row of Trees

- ○ The declination for this map is as follows:

Mean magnetic declination 20°28' West of True North (July 2001).
Mean annual change 8' Westwards (1995–2000).
Supplied by Hermanus Magnetic Observatory

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QUESTION 1 – MULTIPLE CHOICE QUESTIONS

Each question is based on the 1:50 000 topographic map or the 1:10 000 orthophoto map provided. Each question has four possible answers. Choose the correct answer and write ONLY the letter of your choice in the space provided.

1.1.   The main primary activity around Harrismith is...

   A.   Farming
   B.   Fishing
   C.   Mining
   D.   None of the above

1.2.   The building marked 4 on the orthophotograph map is a...

   A.   Police station
   B.   School
   C.   Hospital
   D.   Post Office

1.3.   The King's Hill Plantation is to the ... of the town of Harrismith.

   A.   South-east
   B.   North-west
   C.   North
   D.   West

1.4.   The map index to the north-east of 2829AC is ...

   A.   2828DB
   B.   2829AB
   C.   2828BD
   D.   2829CB

1.5.   The Nuwejaarspruit (blocks **E1, D1**) is flowing ...

   A.   South-east
   B.   South
   C.   North
   D.   North-west

1.6.   The scale of the topographic map is ... times smaller than the scale of the orthophotograph map.

    A.   5

    B.   10

    C.   40

    D.   20

1.7.   The road on the topographical map that links Harrismith to Warden is a/an ... road.

    A.   Secondary

    B.   Main

    C.   Arterial

    D.   National

1.8.   **15** on the orthophotograph map indicates...

    A.   Brickfields

    B.   Sewage Disposal Works

    C.   Silos

    D.   Caravan park

1.9.   The highest point on Queen's Hill is ... metres above sea level

    A.   299

    B.   1 731

    C.   1 757,2

    D.   1680

1.10.   The feature marked **8** on the orthophotograph map is a/an...

    A.   Pool

    B.   Sports ground

    C.   Dam

    D.   Crop farm

1.11.   The closest town by rail to Harrismith is

    A.   Kesell

    B.   Aberfeldy

    C.   Warden

    D.   Phomolong

1.12. What province is Harrismith found in?

    A.   Free State

    B.   Gauteng

    C.   North West

    D.   KwaZulu-Natal

1.13. The natural feature found at $28^{o}18'45"S$; $29^{o}05'40"E$ is a...

    A.   Slope

    B.   Marsh

    C.   Row of trees

    D.   Dry pan

1.14. If you were to travel south-west from the wind pump in **D7**, you would be going...

    A.   Down a gentle hill

    B.   Down a steep hill

    C.   Up a gentle hill

    D.   Up a steep hill

1.15. Which of the following activities can be done in Harrismith, based on evidence you can find on the map?

    A.   Shooting

    B.   Hot air ballooning

    C.   Archery

    D.   Helicopter rides

(15x1) (15)

[15]

QUESTION 2 – MAP CALCULATIONS

2.1. Using the ratio scale, calculate the length in meters of the rifle range (**C2 & C3**). Show all calculations.

_____

_____

_____(3x1) (3)

2.2. Calculate the average gradient of the slope between spot height 1 701 and spot height 1 693, both in block **E2**. Show all calculations.

_____

_____

_____

_____ (4x1) (4)

2.3. Calculate the area (in km^2) of the full topographic map. Show all calculations.

_____

_____

_____

_____(4x1) (4)

2.4. Calculate the magnetic declination for this map for the year 2017.

_____

_____

_____

_____ (4x1) (4)

2.5. Using your answer to QUESTION 2.4. calculate the magnetic bearing from trig. beacon 299 (**C4**) to

the west end of the rifle range (**C2**).

_____

_____

_____

_____ (3x1) (3)

2.6. Give the coordinates of the Sewage Disposal Works (**B1**).

_____ (2x1) (2)

[20]

QUESTION 3 – APPLICATION AND INTERPRETATION

3.1.   There are many small dams in the area. Suggest two possible uses for these dams.

_____

_____

_____

_____

_____ (2x2)   (4)

3.2.   Refer to Blackspruit in block **E5**. Is this a perennial or non-perennial river? Explain what this means.

_____

_____ (2x2)   (4)

3.3.   Refer to the dominant secondary activity that takes place in blocks **B2 & B3**.

3.3.1.   Identify the main secondary activity referred to above.

_____ (1x2)   (2)

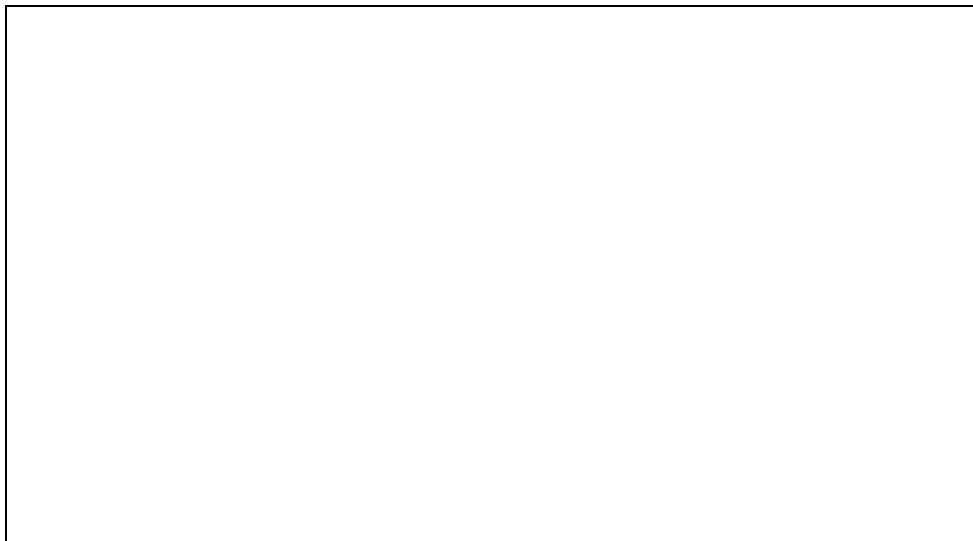3.3.2.   Explain how this activity may impact the environment in a negative way.

_____

_____

_____

_____

_____ (2x2)   (4)

3.3.3.   Suggest a reason for the location of the train station (**B3**).

_____

_____

_____ (1x2)   (2)

3.4.   Refer to points A and B on the orthophotograph map.

3.4.1.   Draw a rough sketch of the cross section from point A to point B.

                                                                                    (1x3)   (3)

3.4.2.   On your cross section, label the following slope elements:

•   Crest

•   Freeface

•   Talus

•   Pediment   (4x1)   (4)

3.4.3.   What form of mass wasting occurs on the freeface?

_____ (1x1) (1)

3.5.   Identify any tertiary activity shown on the topographic map.

_____ (1x1) (1)

                                                                                              [25

QUESTION 4 - GIS

4.1.   Explain what the GIS is.

_____

_____

_____ (2x1) (2)

4.2.   How are pictures of Earth taken from outer space?

_____ (1x2) (2)

4.3.   Explain the difference between *spatial* and *attribute* data.

_____

_____

_____ (2x2) (4)

4.4.   Identify one example of each of the following types of data on the topographic map:

4.4.1.   Point: _____

Line:_____

Polygon (area): _____ (3x1)(3)

4.4.2.   An entrepreneur wants to open a business selling 'unique' home-made burgers for slightly higher

prices than standard fast-food burgers. Explain what information he may gather from GIS to

assist him in placement for his business.

_____

_____

_____

_____

_____(2x2) (4)

[15]

GRAND TOTAL: [75]