LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF EDUCATION

VHEMBE EAST DISTRICT

GRADE 12

GEOGRAPHY MAPWORK TEST (QUEENSTOWN)

MARKING GUIDELINES

04 MARCH 2024

MARKS: 60

These Marking Guidelines consist of 06 pages

Free past papers and study resources: studypapers.co.za

QUESTION 1: GEOGRAPHICAL SKILLS AND TECHNIQUES

The questions below are based on the 1:50 000 Topographical map 3126 DD Queenstown, as well as the 1:10 000 Orthophoto map 3126 DD 1 Nooitgedacht of a part of the mapped area.

1.1. The town of Queenstown is found in the…… Province
A. Gauteng
B. Eastern Cape
C. Limpopo
D. North-West

B

1.2. The contour interval of the orthophoto map is …… metres
A. 10
B. 20
C. 5
D. 15

A

1.3. Which human-made feature is found at grid reference $31^0$49'41"S; $26^0$45'35"E on the topographic map?
A. Trees
B. Spot height
C. Hiking Trail
D. Building

C

1.4. The height of the Trigonometrical Station in block E3 on the topographical map is ……. metres.
A. 173
B. 1394,1
C. 532.24
D. 1384

B

1.5. The dominant natural feature/s found in blocks A1 , A2 & B2 on the topographical map is …….
A. Deposited sand
B. Woodland
C. Marshes and Vlei
D. Non-perennial rivers

A/D

(5x1) **[5]**

Free past papers and study resources: studypapers.co.za

QUESTION 2 : GEOGRAPHICAL SKILLS, CALCULATIONS AND TECHNIQUES

2.1 Refer to the Topographic Map:
Use the demarcated area marked red on Topographic map which represents the Orthophoto Map. Calculate the area in Square metres (m^2). Show ALL calculations.
Formula:
Area =Length X Breadth
Length= 4,2 cm√ X 500 m = 2100 m√
Breadth=3,3 cm√ X 500 m = 1650 m√
Area= LXB
= 2100 m X 1650 m
= 3 465 000 m^2√ (5)

2.2. Calculate the current magnetic declination of Queenstown. Show ALL calculations. Marks will be awarded for calculations.

Difference in Years: 2024-2017=7 √ years

Mean Annual change: 10' √ Westwards

Total Change: 7 x 10' =70'√ / $1^0$10' Westwards

Current magnetic declination: 26^0 25' West
+√ 1^0 10' West
MD= 27^0 35' West. √ (5x1) (5)

2.3 Refer to the Orthophoto map:

2.3.1. Calculate the average gradient from the contour line numbered **6** in block **D4** to **7** (spot height 1567) in block **D2**; if the horizontal equivalent (HE) is 950 m on the orthophoto map.
Formula: Vertical Interval (VI)
Horizontal Equivalent (HE)

$$\frac{1567-1420\ √}{950}$$
$$\frac{147\ √}{950}$$
$$\frac{147}{147} : \frac{950\ √}{147}$$
1: 6,46 OR 1:6,5 √ (4x1) (4)

2.3.2. There is no intervisibility between **8** in block **D4** and **9** in block **D2** on the orthophoto map. Name the type of slope responsible for this.

Convex slope. √ (1x1) (1) **[15]**

Free past papers and study resources: studypapers.co.za

QUESTION 3 MAP INTERPRETATION AND APPLICATIONS

3.1.1. Refer to the Topographical map:

(a)Are streams north of spot height 1294 in block **C5** perennial or non-perennial? (1)
Perennial. √
(b) They are represented by blue staggered/broken lines. √√(1x2) (2)

3.1.2. -Many reservoirs √
-abundance of non-perennial rivers √
-many storage dams √
-abundance of windpumps/ windmills. √ (4x1) (4)
3.1.3. (a) Anabatic wind /flow √√ (1x2) (2)
(b) It is formed when the air on the valley floor is heated ,it then expands and blows upwards along the valley slopes. √√ (1x2) (2)
3.1.4. A Concave slope. √√ (1x2) (2) [13]

3.2. Refer to the Orthophoto map:

3.2.1. A dam / dam wall. √√ (1x2) (2)
3.2.2. A row of trees. √√ (1x2) (2)
3.2.3. -Contours are far/wide apart √ (1x2) (2)
-Cultivated land √

3.2.4. Refer to the Topographical map:

(a) In the reference number 3126 DD Queenstown what do the letters DD stand for?
-the first D represent the bigger/larger block/quadrant. √
-the other D represent the smaller block. √ (1x2) (2)

3.2.5. Refer to blocks **C3** and **E5:**

Why would the farmers in those areas choose to plant frost-resistant crops?

-because they cultivated in the south-facing slopes which do NOT receive sufficient sunshine to minimize frost challenges in winter. √√ 1x2) (2)

3.2.6. Identify the human-made features which have historical significance in the areas in blocks **D3** and **E1**.
-Ruins. √ (1x1) (1)
[11]
[24]

Free past papers and study resources: studypapers.co.za

QUESTION 4: GEOGRAPHICAL INFORMATION SYSTEM (GIS)

4.1.1. Give the names of the missing GIS components in the diagram below:

-Hardware √
-Software √
-Data. √

(3x1) (3)

4.1.2. Refer to the demarcated area **G** in block **B1** on the topographic map:

(a) The non-perennial rivers in the demarcated area are examples of (Raster/Vector) data.
Vector data.√ (1X1) (1)

(b) Which GIS concept describes the process of demarcation in block **B1**?

A. Buffering √
B. Fencing
C. Security
D. Querying (1X1) (1)

4.1.3 Give evidence to show how this process was implemented to demarcate the non-perennial rivers.

- Row of Trees were planted to prevent flooding during high rainfall seasons.√√
- The construction of dams to control possibilities of flooding.

Any ONE. (1X2) (2)

4.1.4 Between the Topographical map and an Orthophoto map, which One uses Raster format?

- An Orthophoto Map.√ (1X1) (1)

4.2. Refer to block **B1** on the topographical map:

4.2.1 Differentiate between Attribute and Spatial data

Attribute data= is that information which describes the spatial characteristics of the features. √√
Spatial data= is geographical distribution / location of data. √√ (2x2) (4)

4.2.2 Identify TWO GIS layers.

- Infrastructure √
- Drainage √
- Road Infrastructure √ Any TWO. (2x1) (2)
- Vegetation √

Free past papers and study resources: studypapers.co.za

4.2.3 Differentiate between Vector and Rasta data.

Vector data views images as lines, dots, nodes, vectors and polygons. √

Raster data views images as Grids made up large numbers of cells. √(2X1) (2)

[16]

[TOTAL=60]

Free past papers and study resources: studypapers.co.za