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REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF  
**EDUCATION**

**VHEMBE WEST DISTRICT**

**NATIONAL SENIOR  
CERTIFICATE**

**GRADE 12**

**GEOGRAPHY MAPWORK TEST**

**MARKING GUIDELINES**

**12 MARCH 2024**

**MARKS: 60**  
**DURATION: 1, 5 HRS**

**N.B This Marking guidelines is consists of FIVE pages.**



**QUESTION 1: MAP SKILLS AND CALCULATIONS**

1.1

1.1.1 B (1)

1.1.2 D (1)

1.1.3 D (1)

1.1.4 A (1)

1.1.5 C (1)

1.1.6 A (1)

1.1.7 B (1)

1.1.8 D (1)

1.1.9 D (1)

1.1.10 D (1)

(10x1) (10)

1.2 Calculate the average gradient from spot height 1313 at block D2 and spot height 1345 at D3 on the topographical map. Use the following information:

Horizontal equivalent (HE) is 1350m

**Formula:**  $\frac{VI}{HE}$

VI= 1345 m-1313m

=32m✓

**G=**  $\frac{32}{1350}$  ✓ for correct substitution

Gradient =1:42, 18✓

(3X1) (3)

1.3 Calculate the current magnetic declination

Difference in years 2024-2017

= 7years✓

Mean annual change = 10'westwards

Total change = 7x10'w

= 70 w✓ (1°10' w)

Magnetic declination for 2024: 26°25' w

+✓ 1°10' w

27°35' west of true north✓

(4X1) (4)

1.4 Explain why it is important to correct the magnetic declination when using a topographic map and magnetic compass on a hike.

By not correcting the magnetic declination you will walk in the wrong direction and get lost ✓  
 To orientate the map ✓. The magnetic declination constantly changes ✓  
 To find an accurate direction ✓. To determine True North ✓  
 ANY THREE

(3x1) (3)  
 /10/  
 [20]

## QUESTION 2: MAP INTERPRETATION

2.1

2.1.1 Slope Aspect (1)

Definition: The location and direction of the valley / hill slopes in relation to the sun's rays. (2) (1+2) (3)

2.1.2

North Facing slope will experience more evaporation resulting in less moisture content in the soil and vegetation density is lower (2)

South facing slopes are in the shadow zone of the hill and will experience less evaporation resulting in higher moisture content in the soil and vegetation density (2)

ANY ONE (1x2) (2)

2.2.

2.2.1.

The gradient of long hill is very steep which will reduce infiltration and increase surface run-off. (2)

Lack of vegetation will increase run-off. (2)

Impermeable rocks increase run-off. (2)

ANY ONE (1x2) (2)

2.2.2

Cold dense air moves downslope/katabatic wind moves down slope under the force of gravity Cold air collects on the valley floor. (2)

The air mass in the valley cools to dew point temperature below 0°C. (2)

The altitude of the valley is high above sea level resulting in regular low temperature. (2) (1x2) (2)

2.3

2.3.1. 10 Metres . (1) (1x1) (1)

2.3.2 Bute (1) (1x1) (1)

2.3.3 A dam. (1) (1x1) (1)

2.4.

2.4.1 For irrigation purposes. (2) (1x2) (2)

2.4.2

Availability of water. (1)

Good soil. (1)

Favourable weather condition. (1)

ANY TWO

(2x1) ((2)

2.4.3

Is a mountainous area. (2)

Slope not suitable for farming because is steep. (2)

ANY ONE

(1x2)(2)

2.4.4. Seasonal rainfall . (1)

Reason: Many non-perennial rivers. (2)

Many dams to store water. (2)

Many resevoir. (2)

(1+2) (3)

2.4.5 Dendritic pattern (1)

Reason: A tree –like appearance. (2)

(1+2) (3)

/24/

### QUESTION 3: GEOGRAPHICAL INFORMATION SYSTEMS:

3.1 B/Polygon. (1)

(1x1) (1)

3.2 To determine if the environmental issue is getting worse

(accept examples) (2)

Images can be updated/monitored regularly (2)

Images can be analysed (2)

Determine possible causes (2)

Provide possible solutions (2)

ANY ONE

(1x2) (2)

3.3 Vector (1)

(1x1) (1)

3.4 It is represented by a polygon (2)

It is not the actual image (2)

**ANY ONE**

(1x2) (2)

3.5 (a) a representation of geographical features using pixels/grid cells.(2) (1x2) (2)

(b) Orthophoto map (1)

(1x1) (1)

(c ) It is an image which shows the real dam and water it contains (2)

Tone reflects the depth(2)

Texture indicates whether there is water in the dam (2)

**ANY ONE**

(1x2) (2)

3.6 Photographs (1)

Satellite images (1)

Testing of natural environment e.g. testing soil and water quality (1)

Physical measurements through surveys (1)

**ANY TWO** (2x1) (2)

3.7 Relief/Topography (1)

Land-use (1)

Geology (1)

Vegetation (1)

Drainage (1)

**ANY TWO** (2x1) (2)

3.8 Row of trees (1) (1x1) (1)

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**TOTAL MARKS: 60**