GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

GAUTENG DEPARTMENT OF EDUCATION

PREPARATORY EXAMINATION

2018

10782

GEOGRAPHY

PAPER 2

TIME: 1½ hours

MARKS: 75

14 pages + 1 page for rough work and calculations

GEOGRAPHY: Paper 2
1078E
10782E

X05

NAME: _____

GRADE: 12 _____

P.T.O.

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(Paper 2)

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RESOURCE MATERIAL

1. An extract from topographic map 3322CD GEORGE.
2. Orthophoto map 3322 CD 24 GEORGE WEST.
3. **NOTE:** The resource material must be collected by schools for their own use.

INSTRUCTIONS AND INFORMATION

1. Write your NAME and CLASS DETAILS in the spaces on the cover page.
2. Answer ALL the questions in the spaces provided in this question paper.
3. You are provided with a 1**:**50 000 topographical map (3322CD GEORGE) and an orthophoto map (3322 CD 24 GEORGE WEST) of a part of the mapped area.
4. You must hand the topographical map and the orthophoto map to the invigilator at the end of this examination session.
5. You may use the blank page at the back of this question paper for all rough work and calculations. Do NOT detach this page from the question paper.
6. Show ALL calculations and use supplied formulae, where applicable. Marks will be allocated for these.
7. Indicate the correct unit of measurement in the final answer of calculations. NO marks will be allocated for answers with incorrect units.
8. You may use a non-programmable calculator and a magnifying glass.
9. The area demarcated in RED on the topographic map represents the area covered by the orthophoto map.

10. The following English terms and their Afrikaans translations are shown on the topographical map:

ENGLISH	AFRIKAANS
Aerodrome	Vliegveld
Caravan Park	Karavaanpark
College	Kollege
Diggings	Uitgrawings
Golf Course	Gholfbaan
Gorge	Kloof
Holiday Resort	Vakansie-oord
Purification Plant	Watersuiweringsaanleg
River	Rivier
Sewage Works	Rioolwerke
Yacht Club	Seiljagklub

GENERAL INFORMATION ON GEORGE



George, a city in South Africa's Western Cape, is surrounded by the Outeniqua Mountains to the north, and by forests, rivers, picturesque farmlands and the Indian Ocean to the south. It is situated on a 10-kilometre plateau with the highest peak in the Outeniquas, Cradock Peak (1578 m), and the prominent George Peak of 1337 metres above sea level. George is on a coastal stretch known as the Garden Route that boasts the largest continuous natural forest area in South Africa.

[*Source:* http: // en.wikipedia.org / wiki / George, Western Cape (Adapted)]

QUESTION 1: MULTIPLE-CHOICE QUESTIONS

The questions below are based on the 1:50 000 topographic map 3322CD GEORGE as well as the orthophoto map of a part of the mapped area. Various options are provided as possible answers to the following questions. Choose the correct answer and write only the letter (A – D) in the block next to the question.

1.1 The province directly east of George is the … province.

A Western Cape
B Eastern Cape
C Northern Cape
D KwaZulu-Natal

1.2 The map reference / code of the map directly southeast of George is …

A 3322 DC.
B 3322 CD.
C 3422 AB.
D 3422 BA.

1.3 The difference in height between spot height 1334 in block **G8** and trigonometrical station **17** in block **F8**, is … m.

A 1317
B 18,52
C 1348
D 244,6

1.4 The natural feature found along the river at **5** on the orthophoto map is a …

A natural spring.
B marsh and vlei.
C woodland.
D waterfall.

1.5 The Doring River in block **A7** on the topographic map flows in a … direction.

A northerly
B north-westerly
C southerly
D south-easterly

1.6 The stream / drainage pattern of the rivers in block **A3** on the topographic map is …

A deranged.
B dendritic.
C trellis.
D rectangular.

1.7 The dotted line **1** on the orthophoto map indicates a …

A spur.
B saddle.
C valley.
D ridge.

1.8 The human-made feature at **6** on the orthophoto map is a …

A sewage works.
B dam.
C reservoir.
D furrow.

1.9 The dotted line, a high lying area **T**, in block **D4**, on the topographic map represents a / an …

A interfluve.
B basin.
C watershed.
D valley.

1.10 George is classified as a … according to its size.

A metropolis
B city
C conurbation
D village

1.11 The main urban land-use zone found in block **L6** on the topographic map is a … zone

A rural-urban fringe
B residential
C commercial
D transition

1.12 The shape of the rural settlements found at **M** in block **D2** is …

A nucleated.
B dispersed.
C linear.
D stellar.

1.13 The street pattern at area **2** on the orthophoto map is a / an ...

A radial pattern.
B irregular planned.
C irregular unplanned.
D grid-iron pattern.

1.14 The crop grown on the Panorama farm in blocks **C2** and **D2** is …

A maize.
B wheat.
C corn.
D grapes.

1.15 The farming activity on the Panorama farm in blocks **C1 / 2** and **D2** indicates … farming.

A monoculture
B subsistence
C small scale
D large scale

(15 x 1) (15)
[15]

QUESTION 2: MAP CALCULATIONS AND TECHNIQUES

2.1 Calculate the distance, in km, that you will travel on the N9 from the T-junction with the other road, **S** in block **C7**, to Uniondale. Show ALL calculations. Marks WILL be awarded for calculations.

Formula: Map Distance x Scale

_____

_____

_____

_____

(4 x 1) (4)

2.2 Calculate the magnetic bearing from spot height 1012 in block **G4** to spot height 1334 in block **G8** for 2018. Show ALL calculations. Marks WILL be awarded for calculations.

Difference in years: _____

Magnetic declination: _____

Mean Annual Change: _____

Total Annual change: _____

Magnetic declination for 2018: _____

True bearing: _____

Magnetic bearing for 2018: _____

_____

(7 x 1) (7)

2.3 Locate line **3 – 4** on the orthophoto map.

2.3.1 Calculate the average gradient between point **3** and the power line at **4** on the orthophoto map. Show ALL calculations. Marks WILL be awarded for calculations.

Formula: Gradient = $\frac{\text{Vertical interval (VI)}}{\text{Horizontal equivalent (HE)}}$

_____

_____

_____

_____

_____

_____

(5 x 1) (5)

2.3.2 Draw free-hand cross-section sketch from point **4** to point **3** on the orthophoto map. Use the sketch to answer the following questions.

(1 x 1) (1)

(a) Is the shape of the slope concave or convex?

_____

(1 x 1) (1)

(b) Explain your answer to Question 2.3.2 (a).

_____

(1 x 2) (2)

[20]

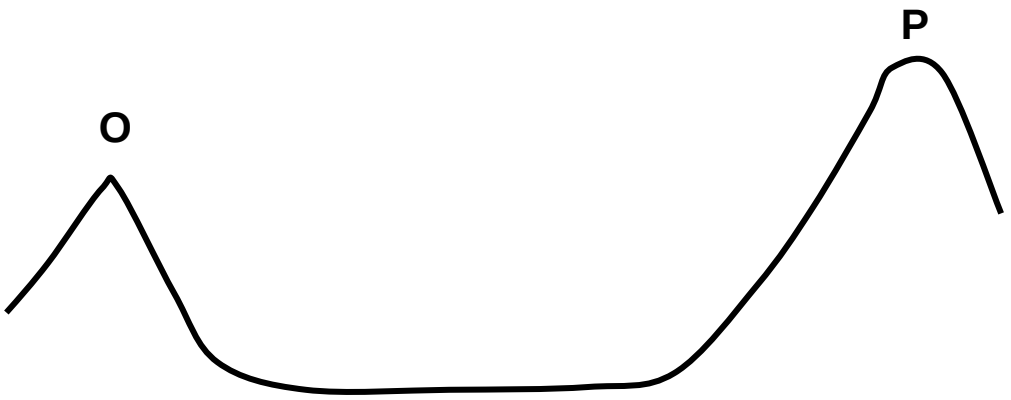
QUESTION 3: APPLICATION AND INTERPRETATION

3.1 Refer to the area covered in blocks **C6** to **C7**.

3.1.1 (a) Name the nocturnal (night) wind that occurs between **O** and **P**. (1)

_____ (1 x 1)

(b) On the cross-section below, indicate the flow of the wind, named in your answer to Question 3.1.1 (a), using an arrow and the position of Burnsleigh. (2 x 1) (2)



3.1.2 Explain how this wind, named in your answer to Question 3.1.1 (a), could contribute to the formation of frost at Burnsleigh.

_____

_____

_____

(1 x 2) (2)

3.1.3 Explain how frost will influence the type of crops being farmed at Burnsleigh.

_____

_____

(1 x 2) (2)

3.1.4 Name and describe ONE method implemented on the farm to reduce the impact of the wind, identified in Question 3.1.1 (a), on the crops being farmed.

Method: _____

Description: _____

_____

(1 + 2) (3)

3.2 Refer to the dotted line in blocks **D4** and **D5** which indicates the drainage basin of the Camfer River.

3.2.1 Is the drainage density high or low? Give a reason for your answer.

Drainage density: _____

Reason: _____

_____

(1 + 2) (3)

3.2.2 Name and explain a physical factor that is evident in the drainage basin which has influenced its drainage density.

Factor: _____

Explanation:_____

_____

(1 + 2) (3)

3.3 Refer to the urban development in the south-eastern corner of the topographic map.

3.3.1 George developed as a gateway town. Give a reason to support this statement.

_____

_____

(1 x 2) (2)

3.3.2 Describe how the development of the N9 influenced the shape of George.

_____

_____

(1 x 2) (2)

3.3.3 Suggest ONE economic advantage of the N9 running through the CBD of George in block **J8**?

_____

(1 x 2) (2)

3.4 Name and explain a human-made factor that influenced the situation of the neighbourhood shopping centre, **R**, in block **K7**.

Factor:_____

Explanation:_____

_____

(1 + 2) (3)

[25]

QUESTION 4: GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

4.1 Refer to the Outeniqua Research Farm located southwest of George (blocks **K5-K6**), in the Eden district.

4.1.1 Name and define the GIS technique used at **U** in block **F1**.

GIS Technique: _____

Definition: _____

(1 + 1) (2)

4.1.2 Evaluate the importance of implementing (using) this GIS technique, named as your answer to Question 4.1.1, for the Outeniqua Nature Reserve.

_____

_____

_____

_____

(2 x 2) (4)

4.2 4.2.1 Mention TWO ways in which remote sensing can collect data to conduct an environmental impact study on the challenges that are faced by the farmers in the George area.

_____

_____

_____

(2 x 1) (2)

4.2.2 Name and explain the GIS technique that the Outeniqua Research Farm will use to provide information to farmers in the area.

GIS technique: _____

Explanation: _____

_____

(2 x 1) (2)

4.2.3 Evaluate the importance of implementing (using) data standardisation before providing information to farmers in the area.

_____

_____

_____

_____

(1 x 2) (2)

4.3 The sketch map below is a plan view of the Outeniqua experimental farm and its surroundings.

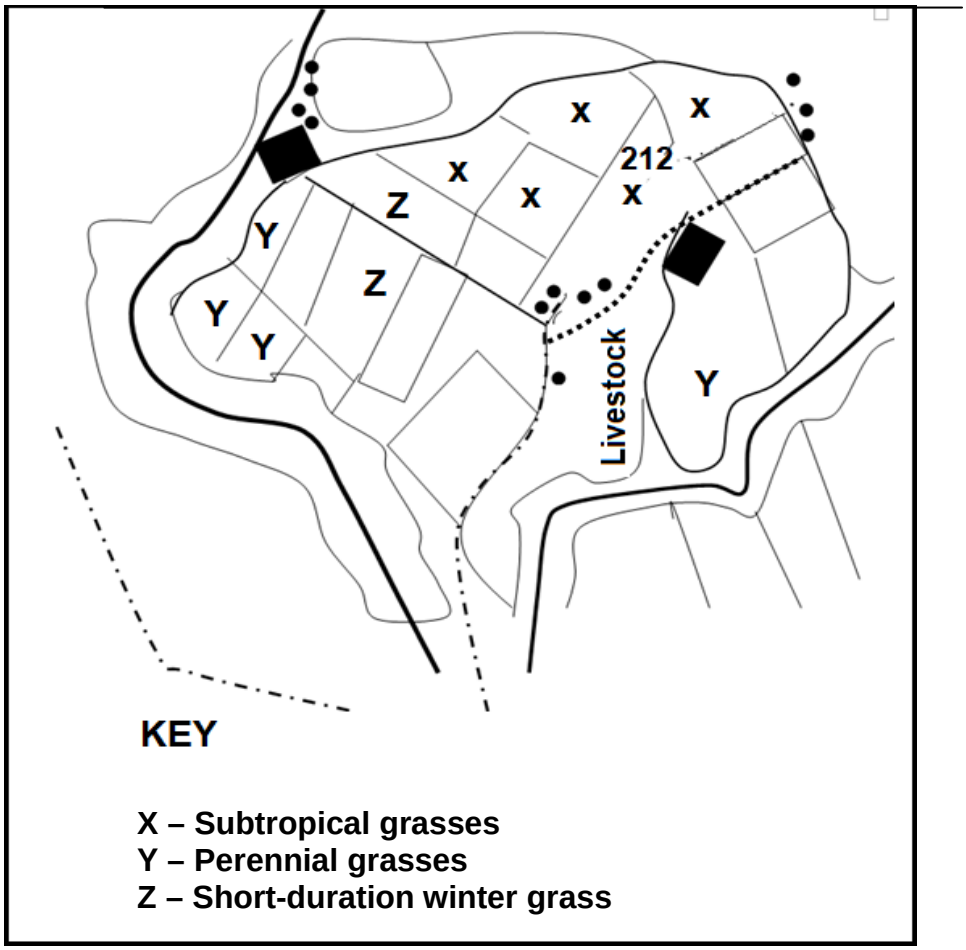
4.3.1 Define the term *attribute data*.

_____

_____

(1 x 1) (1)

4.3.2 Refer to the following plan view of the Outeniqua Experimental Farm.



[Examiner's own sketch]

Use the symbols (letters of the alphabet) shown in the key below to locate the position of the following attribute data for the Outeniqua Experimental Farm on the sketch map.

A – Gwaing river
B – Recreational area

(2 x 1) (2)
[15]

TOTAL: 75

END

ROUGH WORK AND CALCULATIONS (Do NOT detach this page from the question paper)