



Province of the  
**EASTERN CAPE**  
EDUCATION

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 11**

**NOVEMBER 2015**

**GEOGRAPHY P2**

**MARKS: 75**

**TIME: 1½ hours**

**NAME:** \_\_\_\_\_

		MARKS	MOD
Q1	15		
Q2	20		
Q3	25		
Q4	15		

TOTAL MARKS	MOD
<b>75</b>	<b>75</b>



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This question paper consists of 13 pages.  
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**RESOURCE MATERIAL**

1. An extract from topographic map 2827DD FICKSBURG.
2. Orthophoto map 2827DD 13 FICKSBURG.
3. **NOTE:** The resource material must be collected by the schools for their own use.

**INSTRUCTIONS AND INFORMATION**

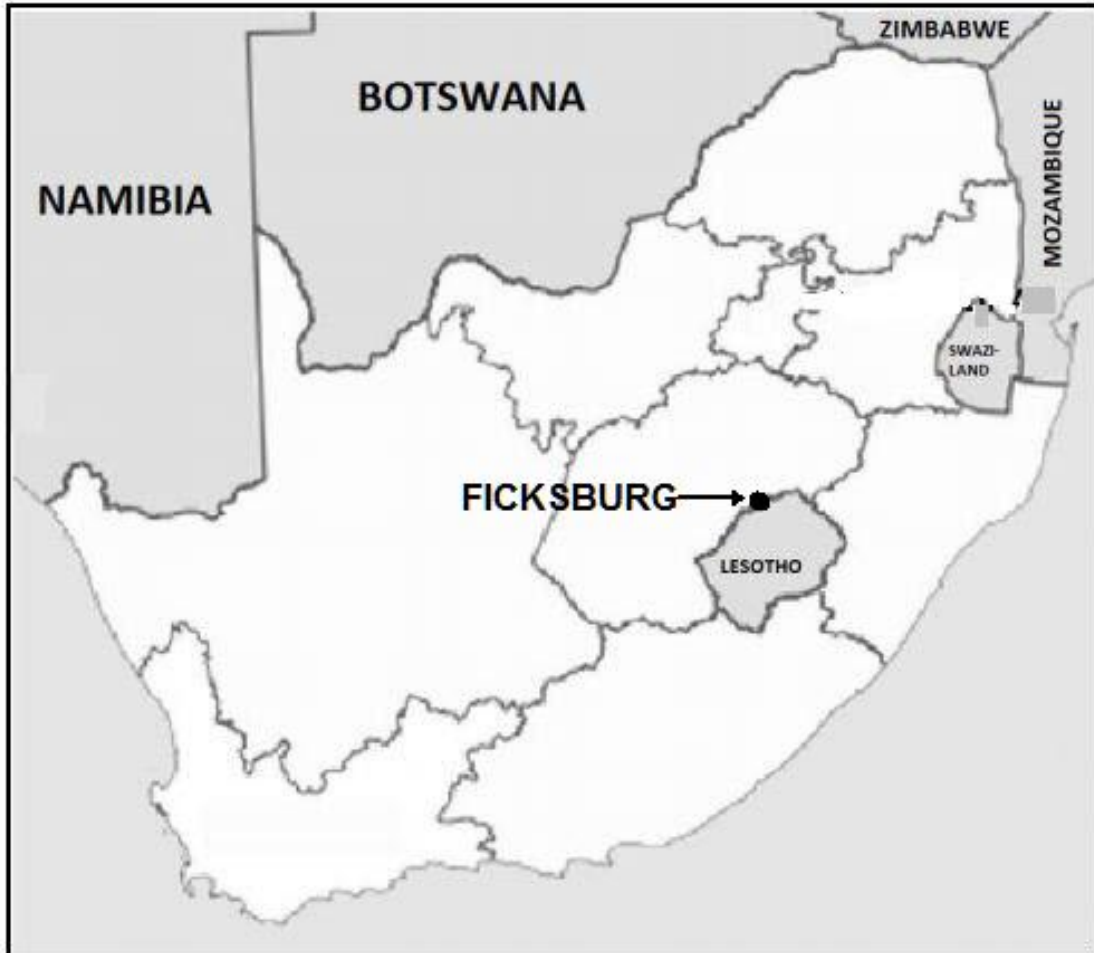
1. Write your NAME in the space provided on the cover page.
2. Answer ALL the questions in the spaces provided in this question paper.
3. You are supplied with a 1 : 50 000 topographic map 2827 DD of FICKSBURG and an orthophoto map of a part of the mapped area.
4. You must hand in the topographic map and the orthophoto map to the invigilator at the end of this examination session.
5. You must use the blank page at the back of this paper for all rough work and calculations. DO NOT detach this page from the question paper.
6. Show ALL calculations and formulae, where applicable. Marks will be allocated for this.
7. You may use a non-programmable calculator.
8. A glossary of some of the English and Afrikaans words and their translations appears below.

**GLOSSARY**  
**(SOME OF THESE TERMS MAY APPEAR ON THE MAPS.)**

ENGLISH	AFRIKAANS
Canal/Furrow	Kanaal/Voor
Cemetery	Begraafplaas
Aerodrome	Vliegveld
Golf course	Gholfbaan
Rifle range	Skietbaan
River	Rivier
Golf course	Gholfbaan
Sewerage works	Rioolwerke
Excavation/Diggings	Uitgrawings
Silo	Graansuier

### POSITION OF FICKSBURG WITHIN SOUTH AFRICA

Situated in the Eastern Free State, Ficksburg lies between the foot of the Imperani Mountains and the banks of the Caledon River, the border with Lesotho. Ficksburg's economy is based chiefly on cherries and mixed agriculture.



**SECTION A****QUESTION 1: MULTIPLE-CHOICE QUESTIONS**

The following statements are based on the 1 : 50 000 topographic map 2827DD FICKSBURG, as well as the orthophoto map of a part of the mapped area. Various options are provided as possible answers to the following statements. Choose the correct answer and write only the letter (A–D) in the block next to the statement.

- 1.1 The natural feature that forms the international boundary labelled **J**, in block **H4**, on the topographic map of Ficksburg is a ...
- A mountain range.
  - B road.
  - C river.
  - D railway line.
- 
- 1.2 The international boundary found on the topographic map is between ...
- A South Africa and Swaziland.
  - B South Africa and Lesotho.
  - C South Africa and Mozambique.
  - D South Africa and Botswana.
- 
- 1.3 An orthophoto map is a ... aerial photograph which has contour lines and other labelled features drawn onto it.
- A high oblique
  - B low oblique
  - C horizontal
  - D vertical
- 
- 1.4 The topographic map number **2827** refers to the ...
- A longitude and latitude.
  - B latitude and longitude.
  - C contour lines and isobars.
  - D longitude and contour lines.
- 
- 1.5 The feature labelled **1** on the orthophoto map is a ...
- A spur.
  - B valley.
  - C saddle.
  - D butte.
-

1.6 The type of slope labelled 2 on the orthophoto map is a ... slope.

- A terraced
- B gentle
- C steep
- D concave

1.7 The man-made water feature at 28°49'20"S 28°49,3'E / 27°56'55"E 27°56,9'E on the topographic map is a ...

- A non-perennial river.
- B windmill.
- C dam.
- D river.

1.8 The ratio scale of the orthophoto map indicates that 1 cm on the map represents ... on the ground.

- A 0,01 km
- B 0,1 km
- C 10 km
- D 1 km

1.9 The approximate time that the orthophoto was taken would be ...

- A between 06:00–08:00.
- B between 10:00–12:00.
- C between 14:00–16:00.
- D after 17:00.

1.10 The building marked 3 on the orthophoto map is a ...

- A school.
- B factory.
- C silo.
- D smallholding.

1.11 Ficksburg is located in the ...

- A Northern Cape.
- B Eastern Cape.
- C Free State.
- D Western Cape.

1.12 Evidence to prove that ground water, in block G3, is used around Ficksburg for agricultural purposes is the occurrence of ...

- A rivers.
- B dams.
- C furrows.
- D windpumps.

1.13 What primary activity is found at **4** on the orthophoto map?

- A Excavation/Diggings
- B Orchards and vineyards
- C Mining
- D Fishing

1.14 The man-made feature marked **5** on the orthophoto map is a ...

- A dam wall.
- B river.
- C bridge.
- D silo.

1.15 The reference number of the orthophoto map directly north-east of Ficksburg is ...

- A 2827 DD 14.
- B 2827 DD 9.
- C 2827 DD 12.
- D 2827 DD 8.

(15 x 1) **[15]**

**SECTION B**

**QUESTION 2: MAPWORK TECHNIQUES AND CALCULATIONS**

Consult the topographic map and answer the following questions. You may use the orthophoto map.

- 2.1 Calculate the length of the rifle range in block **D4** on the topographic map in metres.  
Show ALL calculations. Marks will be awarded for calculations.

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(1 x 2) (2)

- 2.2 Locate the caravan park, in block **E3**, on the topographic map. You decide to walk from the caravan park to trigonometrical beacon  $\Delta 338$ , in block **E4**.

2.2.1 Will your walk be *easy* or *difficult*? Explain your answer.

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(2 x 1) (2)

- 2.2.2 Having completed the walk, calculate the vertical exaggeration for a cross-section drawn on a topographic map with a vertical scale of 1 cm to represent 20 m.  
Show ALL calculations. Marks will be awarded for calculations.

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(5 x 1) (5)

2.3 Calculate the magnetic declination for the year 2015.  
Show ALL calculations. Marks will be awarded for calculations.

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(5 x 1) (5)

2.4 Calculate the area of block **E5** in km<sup>2</sup> on the topographic map.  
Show ALL calculations. Marks will be awarded for calculations.

Area = length x breadth

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(5 x 1) (5)

2.5 What is the average elevation of the Ficksburg Aerodrome, in block **B7**?  
(No marks if final answer has no units.)

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(1 x 1) (1)

**[20]**



**SECTION C**

**QUESTION 3: MAP INTERPRETATION AND ANALYSIS**

3.1 Give TWO pieces of evidence from the topographic map which indicate that farmers in Ficksburg practice irrigation, in block **A9/10** and **B9/10**.

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(2 x 2) (4)

3.2 Mass movements can be classified according to the speed of movement and the amount of water necessary to assist the movement.

3.2.1 Name TWO types of mass movement the slopes at **2** on the orthophoto map could experience.

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(2 x 1) (2)

3.2.2 Describe TWO strategies that Spoornet (railway) could do to minimise the effect of mass movement identified in QUESTION 3.2.1 above.

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(2 x 2) (4)

3.3 The mountains in the area of the topographic map are all similar in shape and height.

3.3.1 Sketch a side view (profile) of the mountain, along the line marked **P–Q** in block **A7** and **A8** to illustrate the typical shape of the mountains and their slope elements.

(2 x 1) (2)

3.3.2 Label your diagram to show the four slope elements.

\_\_\_\_\_ (4 x 1) (4)

3.3.3 On the sketch, indicate the position of the resistant horizontal layer of rock.

\_\_\_\_\_  
\_\_\_\_\_ (1 x 1) (1)

3.4 Using evidence from the map, outline TWO challenges the rural women living in huts, in block **H7**, could experience.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (2 x 2) (4)

3.5 Give TWO possible reasons why people from the neighbouring country might visit Ficksburg.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (2 x 2) (4)

**[25]**

**SECTION D**

**QUESTION 4: GEOGRAPHICAL INFORMATION SYSTEMS (GIS)**

4.1 What is the term used to describe the conversion of a paper map to be used in a computer?

\_\_\_\_\_ (1 x 1) (1)

4.2 Differentiate between *vector* and *raster data*.

**Vector:**

\_\_\_\_\_  
\_\_\_\_\_

**Raster:**

\_\_\_\_\_  
\_\_\_\_\_

(2 x 1) (2)

4.3 Answer the following questions on *data layering*:

4.3.1 Explain the meaning of the term *data layering* in GIS.

\_\_\_\_\_  
\_\_\_\_\_

(1 x 1) (1)

4.3.2 Using GIS technology, a farmer in Ficksburg can combine certain overlays to gain an entire spatial database of his farm. This could help him to make informed decisions about the layout of the farm. Suggest THREE overlays that the farmer in block **B11** could use.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(3 x 1) (3)

4.4 Two municipal officials from Ficksburg have to take photographs of the landscape. One has a 2,0 megapixel camera and the other has a 6,0 megapixel camera. The resolution of the photographs taken by the officials will differ.

4.4.1 Explain the meaning of the term *resolution*.

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(1 x 1) (1)

4.4.2 Which of these cameras would give better quality pictures? Explain your answer.

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(1 + 2) (3)

4.5 Define the term *attribute data*.

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(1 x 1) (1)

4.6 Identify a point feature, a polygon feature and a line feature in block **B9** on the topographic map.

**A point feature:**

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**An area/polygon feature:**

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**A line feature:**

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(3 x 1) (3)  
**[15]**

**TOTAL: 75**

**ROUGHWORK AND CALCULATIONS**





