education

Department of Education
FREE STATE PROVINCE

GEOGRPHY

TEST ONE



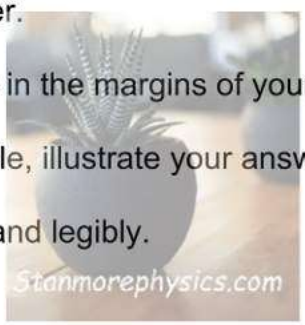
TIME: 1 HOUR

This question paper consists of 7 pages.

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INSTRUCTIONS AND INFORMATION

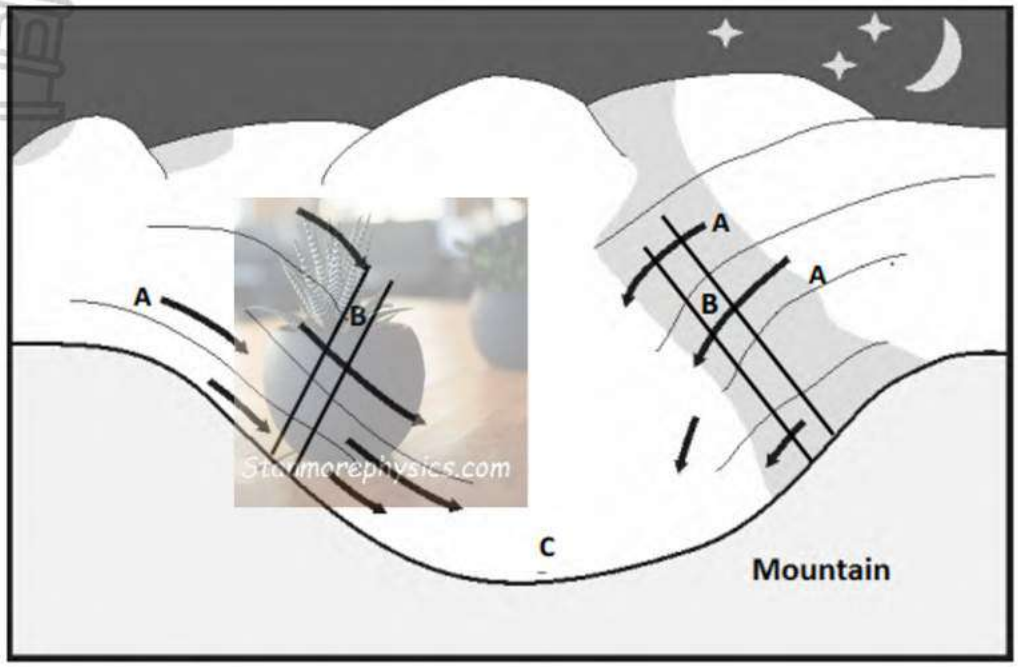
1. Answer ALL the questions.
2. Answer the paragraph questions in the form of a paragraph.
3. ALL diagrams are included in the QUESTION PAPER.
4. Leave a line between subsections of questions answered.
5. Number the answers correctly according to the numbering system used in this question paper.
6. Do NOT write in the margins of your ANSWER BOOK.
7. Where possible, illustrate your answers with labelled diagrams.
8. Write clearly and legibly.



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QUESTION 1

1.1 1.1 Refer to the figure on valley climate. Choose the correct word from within the brackets to make each sentence correct. Write only the word next to the question number (1.1.1–1.1.7).



Adapted from Google Image

1.1.1 A local wind labelled **A** which blows down the slopes of the valley is called a/an (anabatic/katabatic wind).

1.1.2 The cold air sinks to the valley bottom as it is (heavy and dense/ light and dense).

1.1.3 The (thermal belt/ temperature inversions) is a zone along the middle slope of the valley where night-time temperatures remain relatively moderate.

1.1.4 The air at point **C** is cooled by (terrestrial radiation/condensation).

1.1.5 (Frost pockets/ Radiation fog) forms when cold air collects on the valley floor at night.

1.1.6 In the morning, the earth's surface heats up, and the valley is cleared of fog through (evaporation/ condensation)

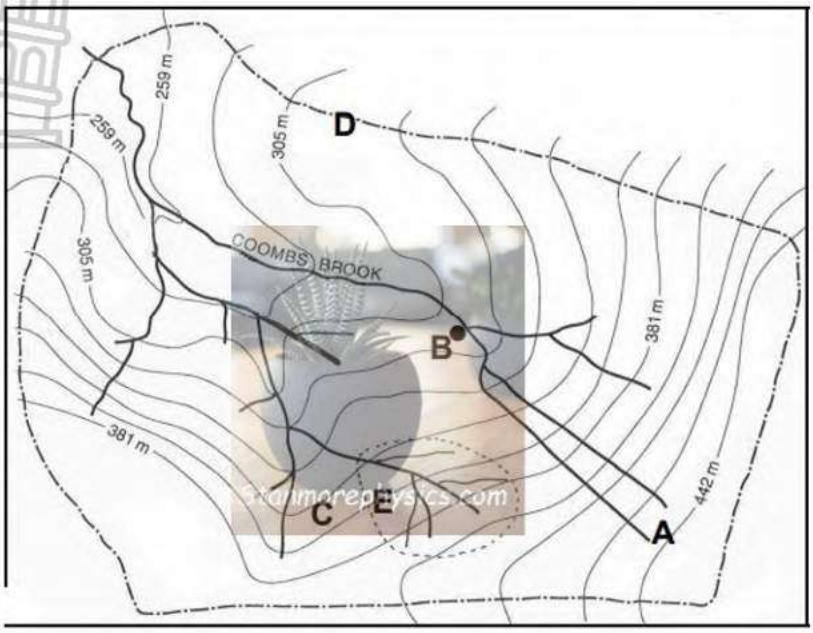
1.1.7 This wind occurs during the (day/night) in valleys.

(7X1) (7)

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1.2 Refer to the sketch below showing drainage system in SA. Complete the statements in COLUMN A with the options in COLUMN B. Write down only Y or Z next to the question numbers (1.2.1 to 1.2.8) in the ANSWER BOOK, e.g. 1.2.8 Y.

FIGURE 1.2 **FIGUUR 1.2**

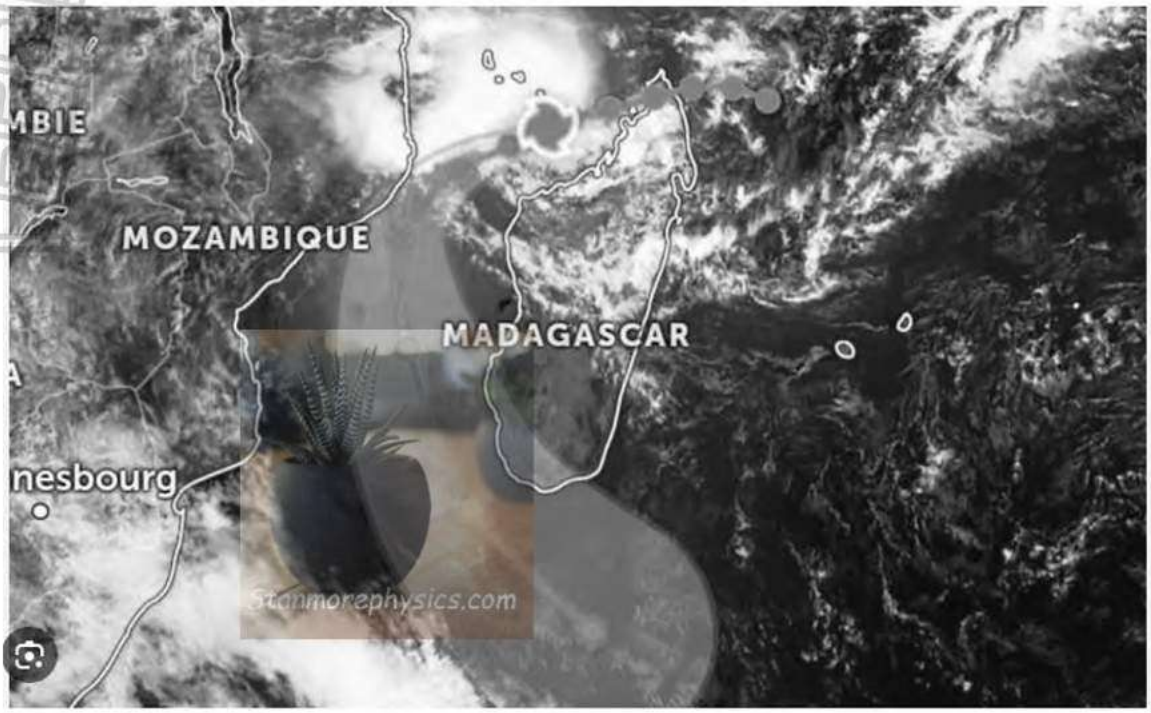


COLUMN A	COLUMN B
1.2.1 Area of a drainage basin marked A which supplies a river with water	**Y** Source **Z** Catchment
1.2.2 Point where two or more streams meet at B	**Y** Interfluve **Z** Confluence
1.2.3 High-lying area marked C that separates two streams within the same drainage basin	**Y** Interfluve **Z** Watershed
1.2.4 High-lying area marked D forming the boundary of a drainage basin.	**Y** Watershed **Z** Catchment
1.2.5 Drainage pattern that has developed at E.	**Y** Trellis **Z** Dendritic
1.2.6 Small stream that flows into a larger river.	**Y** Confluence **Z** Tributary
1.2.7 The stream order at B is…	**Y** High **Z** Low
1.2.8 Area of a drainage basin at which the river flows into a dam/sea.	**Y** Mouth **Z** Source

(8X1) (8)

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1.3 Figure 1.3 refers to the infographic on tropical cyclone.



Situation Overview

Cyclone Dikeledi made landfall south of Ilha de Moçambique as a tropical cyclone on the afternoon of January 13 and re-entered the Mozambique Channel via Angoche the following day. It brought severe weather, with Mossuril recording the highest rainfall at 247mm on 14 January, followed by Muecate (240.1mm) and Nampula (210.4mm). Winds reached speeds of 150 km/h, with gusts up to 180 km/h.

According to the National Institute for Disaster Management (INGD), the cyclone has affected 70,423 people (15,123 households) with six deaths and four injuries reported so far. Preliminary assessments indicate that Angoche was the hardest-hit district, accounting for three of the five deaths. Four evacuation centers are active and are sheltering 1,210 people.

Dikeledi had a devastating impact on the districts it passed through, damaging or destroying some 15,000 houses, 43 health facilities, and one bridge. The cyclone also impacted 105 schools and 291 classrooms, affecting 250 teachers and18,241 students. Road blockages, downed power lines, and damaged communication networks have hampered access to information, particularly in Mongicual and Angoche districts. Approximately 113,000 customers of Electricity of Mozambique were without power. However, efforts to restore electricity have begun, with power already restored in parts of Nacala on the day of the cyclone.

Emergency preparedness and response

1.3.1 Give ONE piece of evidence to indicate that Tropical Cyclone Dikeledi occurred in the Southern Hemisphere. (1x1) (1)

1.3.2 How many tropical cyclones preceded Tropical Cyclone Dikeledi. (1x1) (1)

1.3.3 Name the type of cloud that has resulted in highest rainfall recorded on the 14th of January in Mossuril. (1x1) (1)

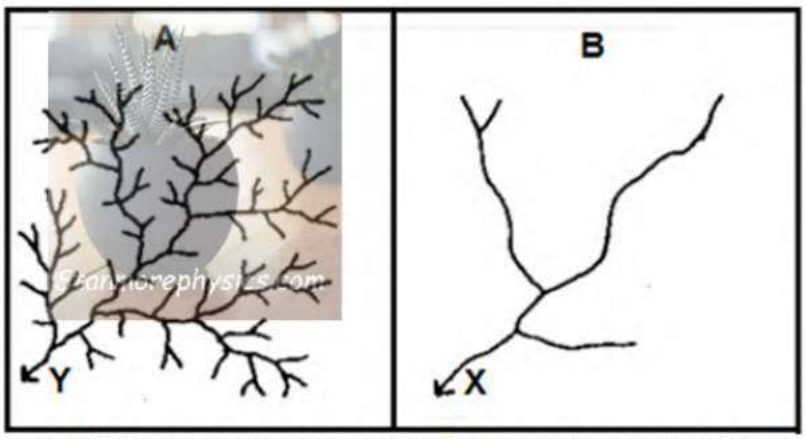
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1.3.4 With reference to the extract, outline the social and environmental impact that Tropical cyclone Dikeledi had in Mozambique. (2x2) (4)

1.3.5 In a paragraph of approximately EIGHT lines discuss the strategies that the government of Mozambique could have implemented to reduce the impact the TROPICAL CYCLONE. (4x2) (8)

[15]

1.4 Figure 1.4 refers to drainage density.



[Adapted from http://www.civil.northwestern.edu/people/dowding/airphoto/scan/a2a.gif]

1.4.1 Define the term drainage density. (1x2) (2)

1.4.2 Which one of the drainage basins **A** or **B** shows the drainage density during dry season. (1x1) (1)

1.4.3 Support your answer in 1.4.2 (2x2) (4)

1.4.4 Name the underlying rock structure where the stream pattern in figure **A** forms. (1x1) (1)

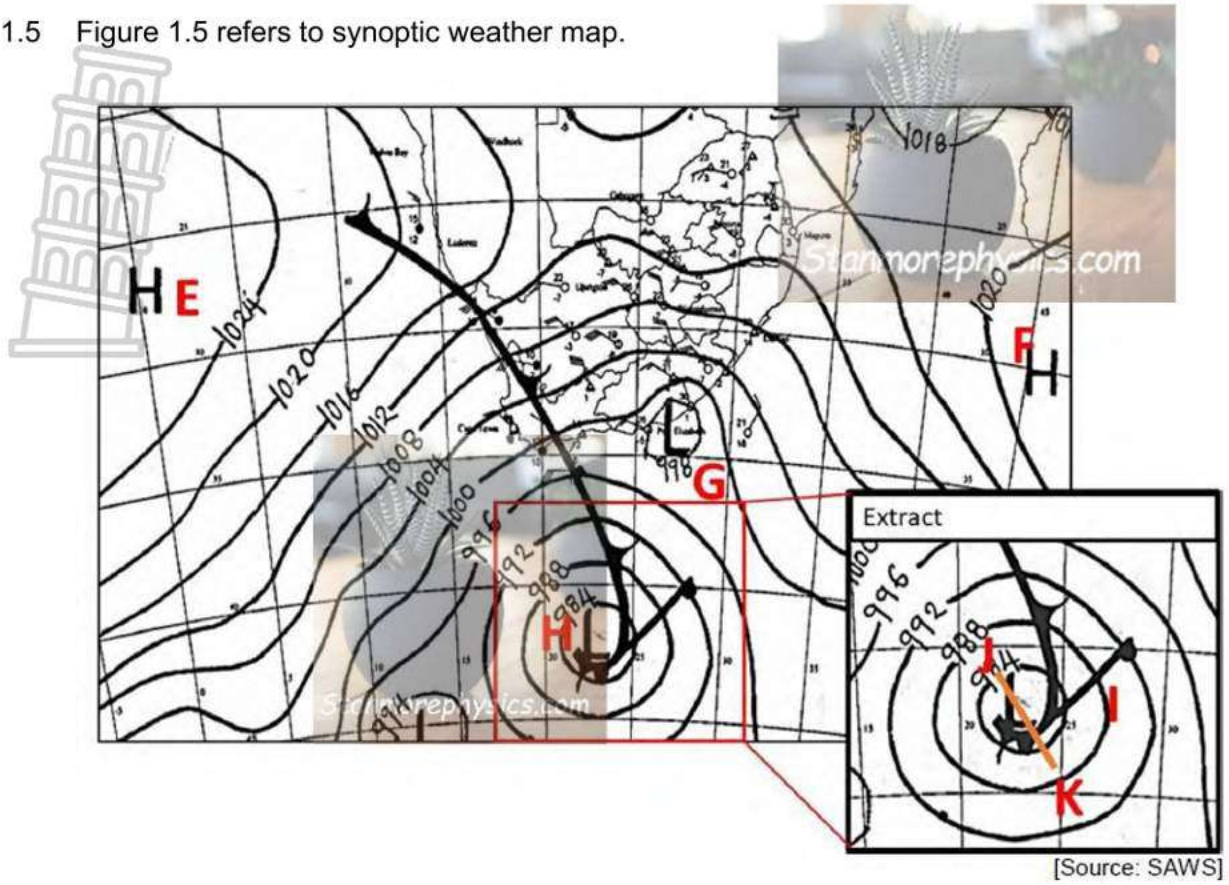
1.4.5 What is the characteristic of the stream pattern in figure **A**. (1x1) (1)

1.4.6 Describe three factors that may have resulted to the drainage density at B. (3x2) (6)

[15]

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1.5 Figure 1.5 refers to synoptic weather map.



[Source: SAWS]

1.5.1	Identify high-pressure cells labelled **E** and F.	(2 x 1)	(2)
1.5.2	This synoptic weather map depicts (summer / winter) conditions.	(1 x 1)	(1)
1.5.3	Provide **TWO** pieces of evidence to prove your answer in 1.5.2.	(2 x 2)	(4)
1.5.4	Describe the circulation of air at the weather system marked **G**.	(1 x 2)	(2)
1.5.5	The common wind associated with the weather system marked **G** is (berg / anabatic).	(1 x 1)	(1)
1.5.6	Identify the weather system marked **H**.	(1 x 1)	(1)
1.5.7	Explain how a warm front occlusion can occur as the next stage of development of this mid-latitude cyclone.	(2 x 2)	(4)

[15]

TOTAL 60

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