education
Department of Education
FREE STATE PROVINCE

GEOGRAPHY

TEST ONE

GRADE: 12

MARCH 2026

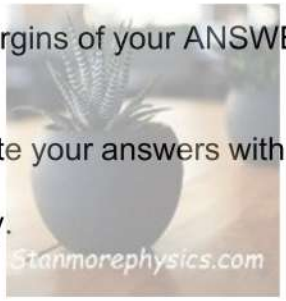
MARKS: 60

TIME: 1 HOUR

This question paper consists of 7 pages.

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.



QUESTION 1

1.1 Give One term for each of the following descriptions by choosing the term from the list below. Write on the term next to the question numbers (1.1.1 to 1.1.7), for example 1.1.8 Kalahari

frost pocket, thermal belt, radiation fog, anabatic wind, slope aspect, temperature inversion, advection fog, katabatic wind, isotherm.

1.1.1 A type of wind that results from air moving up the valley slope during the day

1.1.2 Forms at night under clear, calm condition

1.1.3 An area where warm air is trapped between two colder air masses

1.1.4 The term used to describe an increase in temperature as height increases

1.1.5 A type of wind that results from air moving down the valley at night

1.1.6 In the Southern Hemisphere, north-facing slopes receive more direct sunlight than south-facing slopes.

1.1.7 Occurs when the temperature of cold air on the valley floor drops to below freezing point

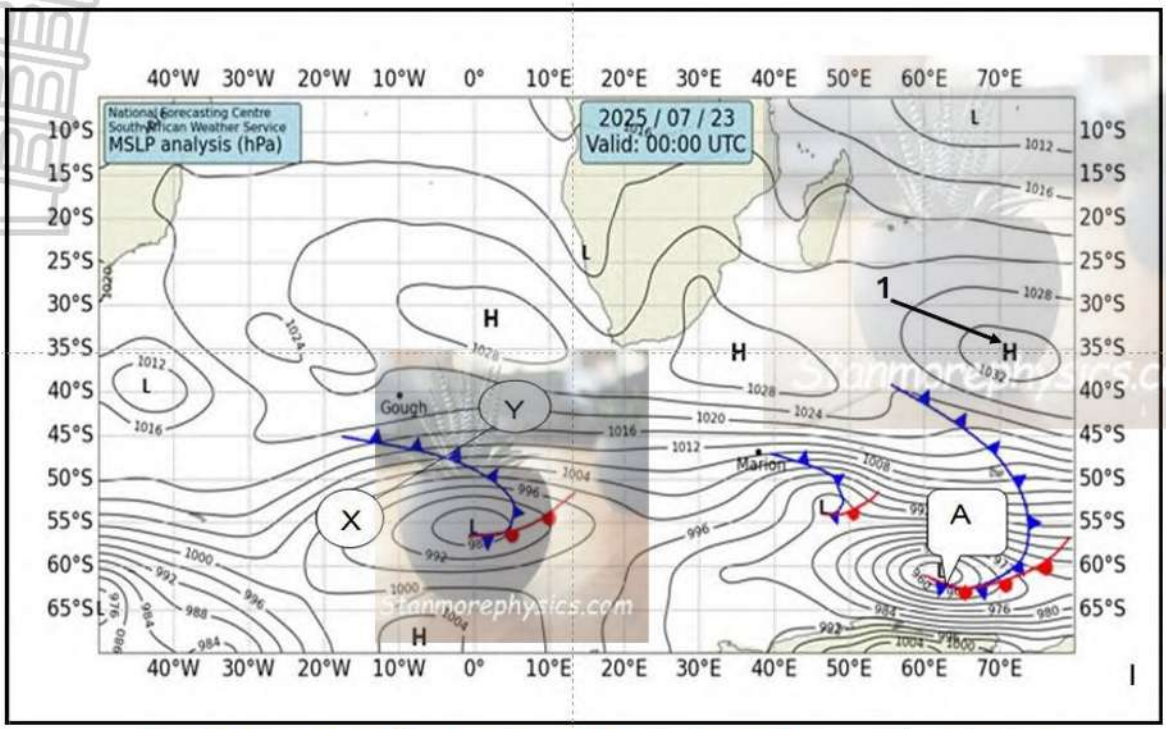
(7x1) (7)

1.2
Choose the correct drainage pattern from COLUMN B that matches the descriptions in COLUMN A. Write only the letter of the correct answer next to question number e.g. 1.2 Z.

	COLUMN A	COLUMN B
1.2.1	Where underlying rock structure is uniformly resistance to erosion	**Y** Trellis **Z** Dendritic
1.2.2	Underlying rock structure with alternating bands of hard and soft rock	**Y** Trellis **Z** Dendritic
1.2.3	This drainage pattern is common in areas with volcanoes, hills or domes	**Y** Centripetal **Z** Radial
1.2.4	Short tributaries joining the main streams at right angles	**Y** Trellis **Z** Rectangular
1.2.5	Streams flowing into a central pan or low-lying area	**Y** Radial **Z** Centripetal
1.2.6	Forms on igneous rock that has joints and cracks	Y Parallel Z Rectangular
1.2.7	Develops on a land surface that was covered by ice sheet or glacier	Y Trellis Z Deranged
1.2.8.	Develops on a surface that slopes uniformly and is fairly steep	Y Parallel Z Rectangular

(8x 1) (8)

1.3 Refer to the sketch below showing the mid-latitude cyclone on a synoptic weather map of Southern Africa.



Source: https://afriwx.co.za/images/synoptic-chart-weather-south-africa.jpg

1.3.1 During which season does the mid-latitude cyclone affect South Africa? (1x1) (1)

1.3.2 Why does the mid-latitude cyclone have a great impact in South Africa during the season mentioned in QUESTION 1.3.1? (1x2) (2)

1.3.3 Draw a free hand cross section through X and Y. Indicate the following: (4x1) (4)

(i) Front
(ii) Cold air
(iii) Cloud type

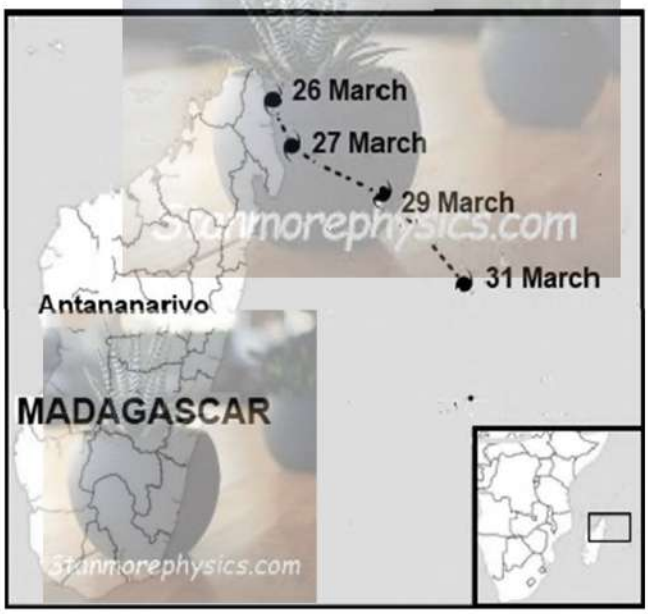
1.3.4 How does the high pressure cell at **1** influence the direction of midlatitude cyclones? (1x2) (2)

1.3.5 Explain how the stage at **A** in a midlatitude cyclone is reached. (3x2) (6)

[15]

1.4 Refer to the infographic below on Tropical Cyclone Gamane.

PATH TAKEN BY TROPICAL CYCLONE GAMANE



[Source: GDACS,METEO Madagascar]

Tropical Cyclone (TC) Gamane made landfall in the Ampisikinana Commune, Sava Region, bringing heavy rains and floods to the north and north-east, on 27 March. The ninth tropical depression system of the current cyclone season began developing along the north-eastern coast of Madagascar on 25 March. Some districts in the north-east have received heavy rainfall over the past few days, the Sambava district recorded 300 mm of rain on 26 March alone. Madagascar issued a red alert for imminent danger in the Diana and Sava regions; and a yellow alert of menace in the Ambatosoa and Analanjirofo regions on 27 March.

[Adapted from *UN office for the coordination of Humanitarian Affairs, accessed on 19 November 2024*]

1.4.1 When did Tropical Cyclone Gamane make landfall, according to the infographic? (1x1) (1)

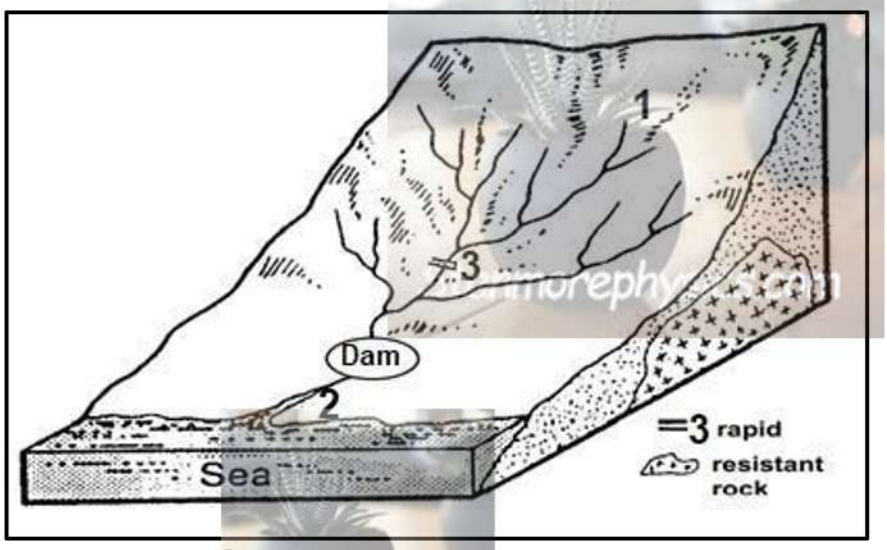
1.4.2 What is the difference between the eye and the eyewall of a tropical cyclone? (1x2) (2)

1.4.3 Explain why warm oceans are necessary for the formation of Tropical cyclone Gamane. (2x2) (4)

1.4.4 In a paragraph of approximately EIGHT lines, discuss the precautionary measures that can be taken to minimize the impact of Tropical Cyclone Gamene (4x2) (8)

[15]

1.5 Refer to the diagram showing river grading



[Adapted: hydrology and Landforms]]

1.5.1 Define the concept base level of erosion. (1x2) (2)

1.5.2 Identify **ONE** temporary base level of erosion in FIGURE 1.5. (1x1) (1)

1.5.3 Draw a labelled longitudinal profile of the river illustrated on the diagram, clearly showing how the temporary base levels of erosion could have influenced the shape of the profile. (4x1) (4)

1.5.4 Comment on the shape of the longitudinal profile that you have drawn in QUESTION 1.5.3. (1x2) (2)

1.5.5 Describe the processes that a river undergoes to be graded. (3x2) (6)

[15]

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MARKING GUIDELINE

QUESTION 1

1.1

1.1.1 anabatic

1.1.2 radiation fog

1.1.3 thermal belt

1.1.4 Temperature inversion

1.1.5 katabatic wind

1.1.6 slope aspect

1.1.7 frost pocket

(7x1)

(7)

1.2 1.2.1 Z (Dendritic)

1.2.2 Y (Trellis)

1.2.3 Z (Radial)

1.2.4 Y (Trellis)

1.2.5 Z (Centripetal)

1.2.6 Z (Rectangular)

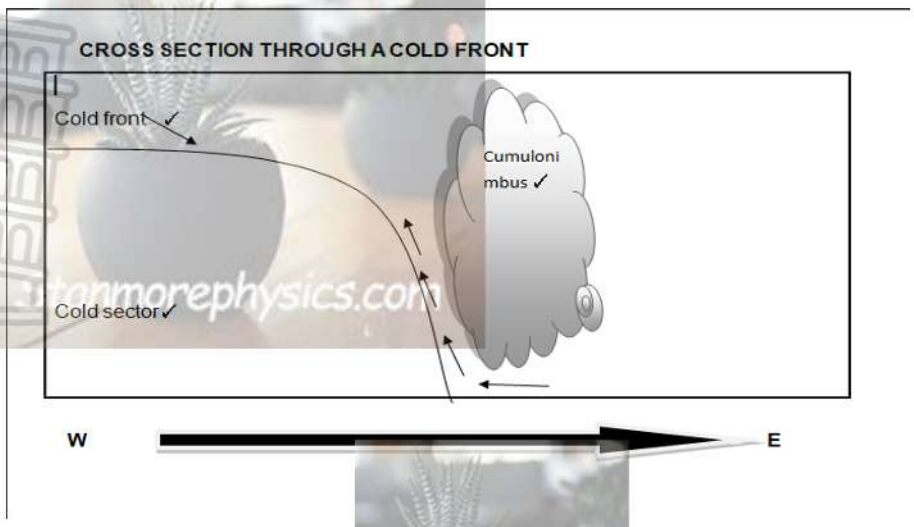
1.2.7 Z (Deranged)

1.2.8 Y (Parallel)

1.3.1 Winter (1x1) (1)

1.3.2 Shift of the pressure belts northwards (1x2) (2)
Apparent movement of the sun. (ANY ONE)

1.3.3 (4x1) (4)



1.3.4 The SIHP blocks the eastward movement of midlatitude cyclones. (1x2) (2)
Changes the direction of movement southwards
(Any one)

1.3.5 The cold air mass is denser; the cold front accelerates and moves more quickly around the cyclone than the warm front. (3x2) (6)
The cold front catches up to the warm front.
The warm air is forced upward because cold air undercuts it.
The warm air becomes cut off from the surface, forming an occluded front.
[ANY THREE]

1.4

14.1 26/27 March

1.4.2 **Eye:** Calm, clear, sinking air, with light or no wind.
Eyewall: area that surrounds the eye and contains the strongest winds, heaviest rain, and most intense convection.

1.4.3 Warm oceans are necessary for tropical cyclone formation because:

They supply abundant moisture and heat through evaporation.
They enable deep convection—rising warm air that forms storm clouds.
They provide latent heat during condensation, the cyclone's main energy source.
They maintain the warm core and low pressure that define a cyclone.
They sustain the positive energy feedback loop essential for intensification.
(ANY One)

1.4.4 Ensure that there is disaster management plan (2)
Monitor the path of the cyclone and its development (2)
Using remote sensors on satellite to track the cyclone (2)
Early warning and communication for people to prepare (2)

Prepare evacuation plans (2)
Upgrade technology
Satellite sensors to collect details, e.g. Rainfall rates (2)
Awareness campaigns? Education (2)
Advance weather predictions and warnings
Build strong shelters where people can gather before the storm arrives (2
Ensure that infrastructure is of good quality (2)
Stock up on non-perishable food, bottled water, torches, medication (2)
Evacuate low-lying areas to protect people from floods (2)

[15]

1.5.1 Lowest level to which a river can erode the landmass. [CONCEPT] (1 x 2) (2)

1.5.2. Dam (1 x 1) (1)

1.5.3 (4 x 1) (4)

TO

Shape (1)

Labels (3)

1.5.4 The profile shows ungraded river profile (1 x 2) (2)

1.5.5 Head-ward erosion in the upper course removes knickpoints such as waterfalls (2)

Rapids are removed by downward erosion. (2)

The stream carrying capacity increases in the middle course, obstruction such as lakes are filled with river load, more lateral erosion. (2)

In the lower course more depositions take place because the gradient is gentler, resulting in gradual gradient. (2) (6)

(3X2) **[15]**

[ANY THREE]