KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

GEOGRAPHY

PROVINCIAL STANDARDISED ASSESSMENT

MARCH 2026

MARKS: 60

TIME: 1 hour

This question paper consists of 9 pages.

INSTRUCTIONS

1. The paper consists of **TWO** QUESTIONS:

   QUESTION 1: CLIMATE AND WEATHER

   QUESTION 2: GEOMORPHOLOGY

2. Answer **ALL** questions.

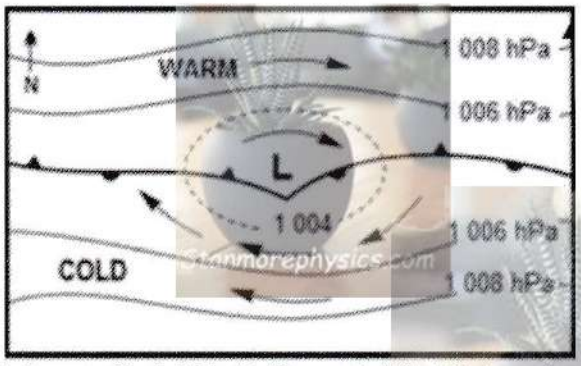
QUESTION 1: CLIMATE AND WEATHER

1.1 Various options are provided as possible answers to the following questions based on the mid latitude cyclone. Choose the answer and write only the letter (A – D) next to the question numbers. (1.1.1 to 1.1.6) in the ANSWER BOOK, e.g. 1.1.7 D.

1.1.1 The tropical westerlies and the polar easterlies meet at the … front.

A. moisture
B. cold
C. warm
D. polar

1.1.2 The diagram below depicts (shows) the … stage of the Mid-Latitude Cyclone



[Source:https://www.govtgirlsekbalpur.com/Study_Materials/Geography/Mid_latitude_cyclone_and_anti-cyclone.pdf]

A. initial
B. wave
C. dissipating
D. occlusion

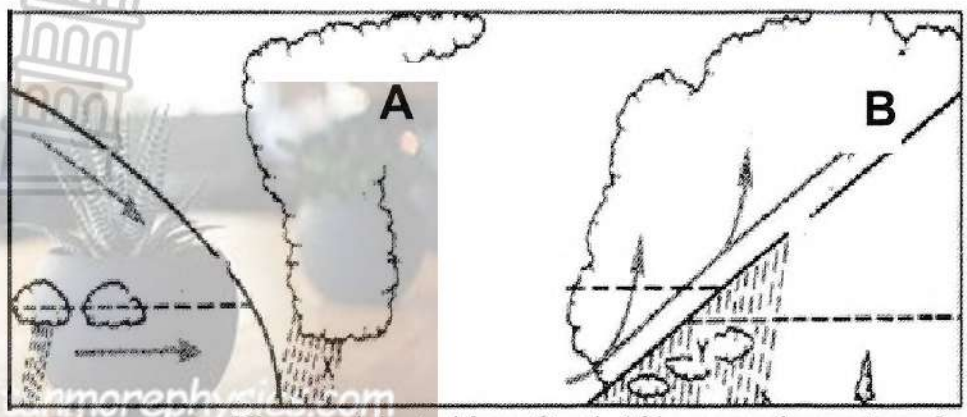
1.1.3 Mature stage occurs when …

A. the low pressure intensifies at the apex of the two fronts and the stormiest weather begins. Stanmorephysics.com
B. a stationary polar front forms, with wind shear in two opposite directions.
C. the cold air travels faster than the warm air and overtakes the warm front.
D. all the warm air is lifted off the ground and the pressure gradient weakens.

1.1.4 A cold front occlusion occurs when the …

A. warmest air behind the cold front.
B. coldest air found behind the cold front
C. coldest air is found ahead of the cold front.
D. cold air is all uplifted.

Refer to the cross section of the mid-latitude below to answer QUESTIONS 1.1.5 and 1.1.6.



[Source: Adapted from South African weather patterns]

1.1.5 The clouds that are found at **A** and **B** respectively are … and … clouds.

(i) cumulonimbus
(ii) cirrus
(iii) nimbostratus
(iv) altocumulus

A. (i) and (ii)
B. (i) and (iv)
C. (i) and (iii)
D. (ii) and (iv)

1.1.6 Precipitation experienced at cloud **A**.

A. torrential thunderstorms with hail
B. moderate widespread rainfall
C. stable conditions with no rainfall
D. light drizzle (6 x 1) (6)

1.2 Refer to the extract and the satellite image below on tropical cyclone.

At 12:00 UTC on 10th January, Tropical storm Dudzai intensified from a tropical depression. By 11 January, it had rapidly intensified into a tropical cyclone. On the 12th of January, Dudzai then encountered less favorable conditions, leading to a gradual weakening. On 15 January, Dudzai strengthened and reached its second peak intensity with maximum sustained winds of 195 km/h which caused damage in the Island of Reunion and Mauritius.

Duration	10 January – 21 January
Peak intensity	195 km/h 937 hPa

[Adapted from: 2025–26 South-West Indian Ocean cyclone season -Wikipedia]

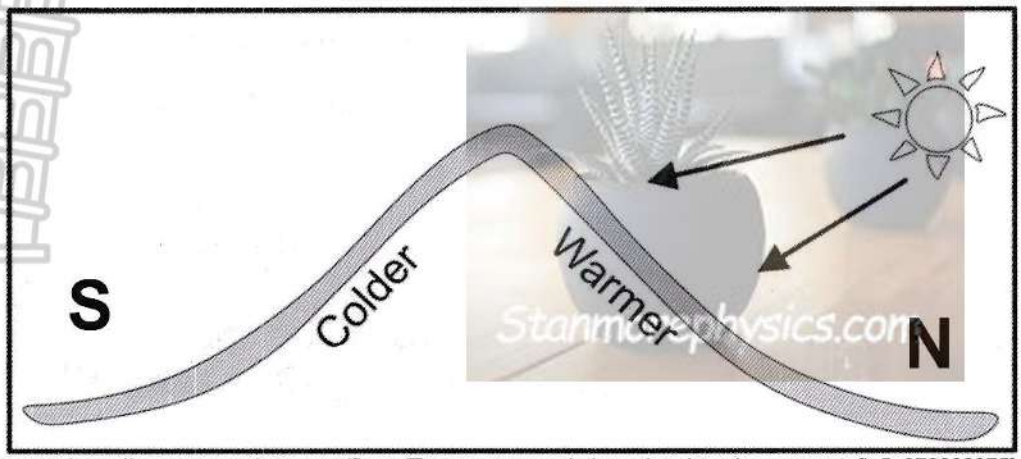
1.2.1 What is the general direction of movement of tropical cyclones? (1 x 1) (1)

1.2.2 Provide ONE condition necessary for the formation of tropical cyclone Dudzai. (1 x 1) (1)

1.2.3 Account for the weakening of tropical cyclone Dudzai from the 12th to the 14th of January. (1 x 2) (2)

1.2.4 In a paragraph of approximately EIGHT lines, discuss possible negative impact that could be experienced on the coastal areas of Reunion Island and Mauritius due to tropical cyclone Dudzai. (4 x 2) (8)

1.3 Refer to the sketch of the micro-climate below.



[Source: https://www.researchgate.net/figure/Temperature-variation-related-to-slope-aspect_fig5_379666975]

1.3.1 Define the concept *slope aspect.* (1 x 2) (2)

1.3.2 Which slope (colder/warmer) is ideal for human settlement? (1 x 1) (1)

1.3.3 Name the hemisphere shown by the diagram above. (1 x 1) (1)

1.3.4 Give a reason for your answer to QUESTION 1.3.3 above. (1 x 2) (2)

1.3.5 Explain why the soil is damp (moist) on the south-facing slope. (1 x 2) (2)

1.3.6 Discuss the influence of temperature difference between the two slopes on farming. (2 x 2) (4)

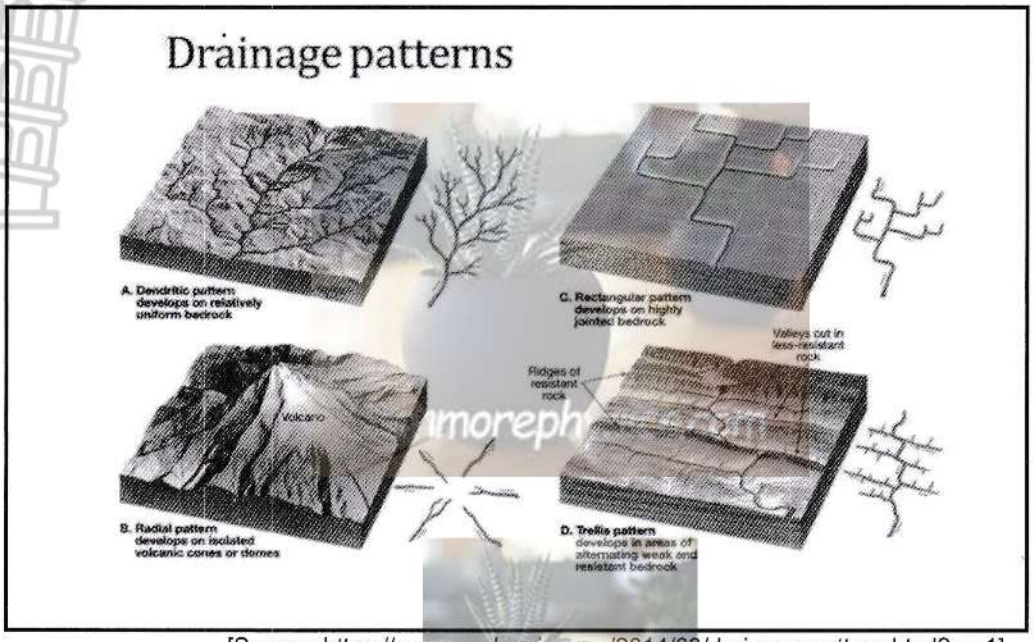
QUESTION 2: GEORMOPHOLOGY

2.1 Match the statements in COLUMN A with the options in COLUMN B. Write only Y or Z next to the question numbers (2.1.1. to 2.1.6). e.g. 2.1.7 Y.

	COLUMN A		COLUMN B
2.1.1	The main stream and its tributaries.	Y Z	Drainage basin River system
2.1.2	High lying area separating two streams of the same drainage basin.	Y Z	Watershed Interfluve
2.1.3	Upper reaches of the drainage basin which supplies a river with water.	Y Z	Catchment area Water table
2.1.4	Seepage of water into the soil.	Y Z	Run-off Infiltration
2.1.5	A point where two streams meet.	Y Z	Confluence Tributary
2.1.6	A point where the river enters the sea.	Y Z	River source River mouth

(6 x 1) (6)

2.2 Refer to diagrams below showing drainage patterns.



[Source: https://www.geologyin.com/2014/03/drainage-pattern.html?m=1]

2.2.1 Define the concept *drainage pattern.* (1 x 2) (2)

2.2.2 Identify the drainage pattern which resembles the spokes of the wheel. Stanmorephysics.com (1 x 1) (1)

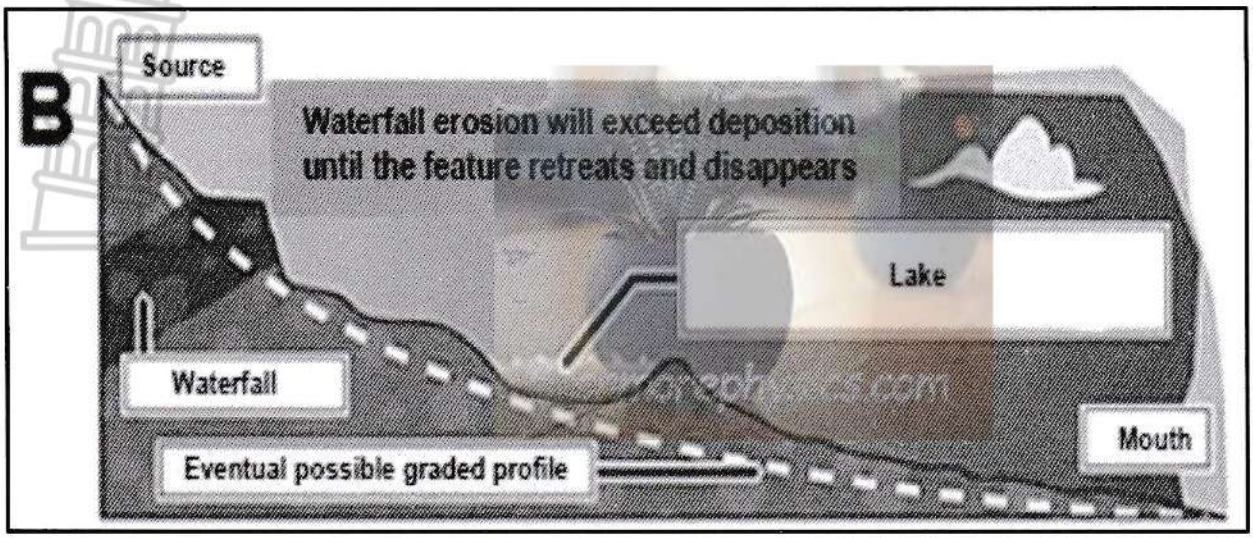
2.2.3 Mention ONE factor that results in different drainage patterns forming. (1 x 1) (1)

2.2.4 Describe the dendritic drainage pattern. (1 x 2) (2)

2.2.5 Give a reason why the dendritic stream pattern favours farming? (1 x 2) (2)

2.2.6 Explain why tributaries in the Rectangular and trellis stream pattern join the mainstream at right angles. (2 x 2) (4)

2.3 Refer to the diagram showing river profile.



[Adapted from alevelgeography.com]

2.3.1 Identify the river profile shown in the diagram. (1 x 1) (1)

2.3.2 Describe the gradient on the upper course of the river. (1 x 1) (1)

2.3.3 Why is the river profile in the diagram above regarded as ungraded? (1 x 2) (2)

2.3.4 The lake is referred to as a temporal base level of erosion. Explain this statement. Stanmorephysics.com (1 x 2) (2)

2.3.5 Discuss the processes that the river must undergo to change from ungraded to graded profile. (3 x 2) (6)

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MARKING GUIDELINES

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This marking guideline consists of 4 pages.

1.1

1.1.1 D (polar). (1)
1.1.2 B (wave). (1)
1.1.3 A (the low pressure intensifies at the apex of the two fronts and the stormiest weather begins). (1)
1.1.4 B (coldest air found behind the cold front). (1)
1.1.5 C ((i) and (iii). (1)
1.1.6 A (torrential thunderstorms with hail). (1)
(6x1)(6)

1.2

1.2.1 East to west (westwards / westerly direction). (1)
1.2.2 Presence of an extremely low pressure system/convergence of air.
Presence of (strong) Coriolis force.
Sea surface temperatures of 26.5°C or more.
Calm conditions over the ocean.
Unstable atmospheric conditions
High rates of evaporation/high moisture content/high humidity.
Release of latent heat.
Upper air divergence.
Low wind shear for number of days
[ANY ONE] (1)

1.2.3 Might have moved over the land where there is more friction.
Might have moved over the land where there is less moisture (supply).
Less latent heat.
Sudden wind shear.
Might have moved over cold ocean waters.
In the (active) path of an approaching cold front.
Moved to the temperate latitudes/high latitude.
[ANY ONE] (2)

1.2.4 Strong winds or heavy rainfall may result in coastal erosion.
Strong winds or heavy rainfall may result in damage to property.
Loss of income in the fishing industry/Damage to fishing industry, boats will be destroyed and harbours damaged, disrupting livelihoods
Disruption of biodiversity/ ecosystems.
Aesthetic beauty of the area will be disturbed.
Disruption of infrastructure on the coast (Accept examples).
Costly to repair damages / medical and insurance claims.
Causes injury or death to people or animals.
Loss of income on the agricultural community. Accept examples).
Sea water floods farmland and reduce soil fertility.
Powerful wave and storm surge will cause severe coastal flooding in low-lying areas thus reshaping the coastline.
Heavy rainfall would trigger flash-floods and landslides, damaging roads and settlements.
Coral reefs, wetlands and mangroves may be damaged.
Displacement of people as a result of floods.
Water contamination/ water-borne diseases.
Storm surges can damage fishing vessels.
Strong winds results in storm surges (coastal flooding).
Decline in the tourism industry.
[ANY FOUR] **(4x2)(8)**

1.3

1.3.1 The direction the slope faces in relation to the sun rays. (2)
[CONCEPT]

1.3.2 Warmer. (1)

1.3.3 Southern (hemisphere). (1)

1.3.4 The north-facing slope is warmer/North facing slope receives direct insolation. South facing slope is colder/South facing slope receives oblique insolation. (2)

1.3.5 The slope is facing away from the sun (shadow zone) resulting in (lower temperatures), therefore less evaporation. (2)

INSTRUCTION FOR PART MARKING
ONE MARK for the factor ONLY.

1.3.6 Cultivate crops that require higher temperature on the warmer slope.
(Accept examples)
North facing slopes are better for grazing.
Plant trees on the cooler (colder) slope.
Cooler slopes are more prone to frost in winter, sensitive crops may be damaged.
Warm slopes – soil dries faster
South facing slopes livestock may need shelter or supplementary feed in cooler months. (2x2)(4)

QUESTION TWO

2.1

2.1.1 Z (river system). (1)

2.1.2 Z (interfluve). (1)

2.1.3 Y (catchment area). (1)

2.1.4 Z (infiltration). (1)

2.1.5 Y (confluence). (1)

2.1.6 Z (river mouth). (1)
(6x1) (6)

2.2

2.2.1 Arrangement of streams on a drainage basin.
[CONCEPT] (1 x 2) (2)

2.2.2 Radial. (1) (1 x 1) (1)

2.2.3 Underlying rock strata
Geology
Tectonic forces
Slope (gradient)
[ANY ONE] (1 x 1) (1)

2.2.4 It looks like a tree with several) branches/ resembles the branches of the tree. Tributaries join the mainstream at acute/small angles.

[ANY ONE] (1 x 2) (2)

2.2.5 Tributaries cover a wider area ensuring availability of water for

irrigation. (It spreads water across the land like tree roots ensuring availability of water for irrigation).
Has uniform resistance to erosion. (1 x 2) (2)

2.2.6 **Rectangular**
They occur in rocks with faults and joints, water flows along those cracks. (2)

Trellis
Streams follow valleys carved in softer rocks while tributaries cut along ridges to meet the mainstream. (2) (2 x 2) (4)

INSTRUCTION FOR PART MARKING
ONE MARK for the factor ONLY.

2.3

2.3.1 Longitudinal profile. (1)
2.3.2 The slope is steep (hilly and mountainous). (1)
2.3.3 The river has temporal base levels. (Accept examples). (2)
The river has obstacles/irregularities.
2.3.4 The lake temporarily prevents the river from further vertical erosion.
The river can erode further after the lake. (2)
Rivers deposit sediments when they reach the lake.
[ANY ONE]

2.3.5 In the upper course increased downward erosion makes the slope very steep.
Vertical erosion remove temporal base levels such as rapids.
Head ward erosion remove temporal base level such as waterfalls.

In the middle course eroded sediments are transported downstream increasing the river's stream carrying capacity.
Lateral erosion takes place in the middle course

In the lower course deposition takes place and the river fill up with sediments until the lake disappears and the profile becomes smooth and continuous.
Increased deposition in the lower course to make the slope very gentle.

[ANY THREE] (3x2) (6)

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