



Province of the
EASTERN CAPE
EDUCATION

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

JUNE 2021

**GEOGRAPHY
MARKING GUIDELINE
(EXEMPLAR)**

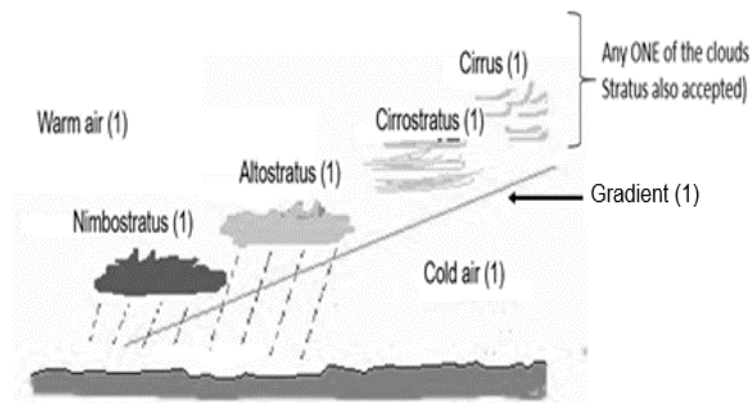
MARKS: 150

This marking guideline consists of 8 pages.

SECTION A

QUESTION 1: WEATHER AND CLIMATE

- 1.1 1.1.1 Cumulonimbus (1)
- 1.1.2 southern
- 1.1.3 easterly (1)
- 1.1.4 Clear skies (1)
- 1.1.5 outside (1) (5 x 1) (5)
- 1.2 1.2.1 Isotherms (1)
- 1.2.2 12 °C (1)
- 1.2.3 rural areas (1)
- 1.2.4 CBD (1)
- 1.2.5 A to B (1) (5 x 1) (5)
- 1.3 1.3.1 Air pressure (1) (1 x 1) (1)
- 1.3.2 South Atlantic high further north indicating the northward migration of the ITCZ (1)
 South Indian high further from the land (1)
 Clear skies over the interior (1)
 Kalahari high dominant over the interior (1)
(Any ONE) (1 x 1) (1)
- 1.3.3 Descending air is stronger than the convection stream during winter (2)
 The inversion layer will be pushed towards/beyond the plateau (2)
 (2 x 2) (4)
- 1.3.4 (a) West to east/Easterly/eastwards (1) (1 x 1) (1)
- (b)



(4 x 1) (4)

- (c) Clockwise movement of air around a low pressure is causing south-westerly winds at **D** and north-westerly winds at **E** (2)
Onshore winds experienced at **D** and offshore winds at **E** (2)
(2 x 2) (4)
- 1.4 1.4.1 Meeting of warm, moist air and cold, dry air over the interior of South Africa (2)
(CONCEPT) (1 x 2) (2)
- 1.4.2 Summer (1) (1 x 1) (1)
- 1.4.3 Anti-clockwise movement of air from pressure system **A** causes cold, dry air to move towards the interior of South Africa (2)
Anti-clockwise movement of air from pressure system **B** causes warm, moist air to move towards the interior of South Africa (2)
The cold, dry air meets the warm, moist air over the interior forming the moisture front (2)
(Any TWO) (2 x 2) (4)
- 1.4.4 **Negative impact**
Cumulonimbus clouds cause heavy rainfall and flooding will destroy infrastructure (2)
Heavy rainfall will cause soil erosion, which makes soil infertile and affects crop production (2)
Productivity decreases due to strong winds (2)
Lightning may cause crops to catch fire (2)
Fields can become waterlogged after torrential/heavy rain, which decreases crop production (2)
Strong and gusty winds destroy crop plantations and infrastructure (2)

Positive impact
Rains will fill dams, which increases water availability through irrigation (2)
Long term effects of floods will make the soil fertile (2)
Productivity will increase (2)
(Any FOUR) (4 x 2) (8)

[40]

QUESTION 2: GEOMORPHOLOGY

2.1	2.1.1	dendritic (1)		
	2.1.2	acute angles (1)		
	2.1.3	Uniform (1)		
	2.1.4	3 (1)		
	2.1.5	interfluve (1)	(5 x 1)	(5)
2.2	2.2.1	Laminar (1)		
	2.2.2	Turbulent (1)		
	2.2.3	Laminar (1)		
	2.2.4	Turbulent (1)		
	2.2.5	Turbulent (1)	(5 x 1)	(5)
2.3	2.3.1	High lying area between two drainage basins (1) (CONCEPT)	(1 x 2)	(2)
	2.3.2	River A is flowing over softer rock (1) River A is flowing at a lower level (1) (Any ONE)	(1 x 1)	(1)
	2.3.3	It lowers the watershed (1) It causes a gap in the watershed (1) (Any ONE)	(1 x 1)	(1)
	2.3.4	Increase in water volume (2) River is longer (2) River has more erosive power (2) Starts to erode vertically again (2) (Any TWO)	(2 x 2)	(4)
	2.3.5	The valley through which it flows is too big (2) Stream has too little water (2) (Any ONE)	(1 x 2)	(2)
	2.3.6	(a) Elbow of capture (1)	(1 x 1)	(1)
		(b) Tourist attraction because of the knickpoint waterfall (2) Due to falling water, hydro-electricity can be generated (2)	(2 x 2)	(4)

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|-----|-------|--|---------|-----|
| 2.4 | 2.4.1 | Permanent/Perennial (1) | (1 x 1) | (1) |
| | 2.4.2 | (a) Upper level of the groundwater, where soil and rocks are permanently saturated with water (1)
(CONCEPT) | (1 x 2) | (2) |
| | | (b) In sketch A the water table is higher than in sketch B (2) | (1 x 2) | (2) |
| | | (c) Continuous pumping of water from the well, will lower the water table (2)
The well makes the ground less saturated and decreases flooding/overflow of the river (2)
(Any ONE) | (1 x 2) | (2) |
| | 2.4.3 | More soil erosion will cause more silt deposits in the river, thus decreasing water capacity (2)
Silting of the river might cause it to become non perennial (2)
Less infiltration will lower the water table, with a decrease in groundwater flow hence decreasing the volume of water (2)
Less evapo-transpiration will decrease rainfall, which will affect the volume of water in the long term (2) | (4 x 2) | (8) |

[40]**QUESTION 3: RURAL AND URBAN SETTLEMENTS**

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|-----|-------|--------------------------|---------|-----|
| 3.1 | 3.1.1 | F (1) | | |
| | 3.1.2 | C (1) | | |
| | 3.1.3 | D (1) | | |
| | 3.1.4 | E (1) | | |
| | 3.1.5 | A (1) | (5 x 1) | (5) |
| 3.2 | 3.2.1 | Threshold population (1) | | |
| | 3.2.2 | Invasion (1) | | |
| | 3.2.3 | Urban hierarchy (1) | | |
| | 3.2.4 | Urban sprawl (1) | | |
| | 3.2.5 | Urban profile (1) | (5 x 1) | (5) |

3.3	3.3.1	The manner in which farms and houses are arranged (1) (CONCEPT)	(1 x 2)	(2)
	3.3.2	Nucleated (1)	(1 x 1)	(1)
	3.3.3	Flat land made it easier to expand (2) Fertile soil allows farmers to stay together with enough land surrounding them to farm (2)	(2 x 2)	(4)
	3.3.4	(a) T-shape (1)	(1 x 1)	(1)
		(b) Main roads joining in a T-shape (1)	(1 x 1)	(1)
		(c) Easy access to most farmland (1) Easy access to markets (1) (Any ONE)	(1 x 1)	(1)
	3.3.5	Land is fragmented, therefore hampering initiative and expansion (2) Traveling between cultivated lands have extra financial implications (2) Profits might be shared between farmers due to communal ownership (2) (Any TWO)	(2 x 2)	(4)
3.4	3.4.1	The physical growth of the urban area (2) (CONCEPT)	(1 x 2)	(2)
	3.4.2	An increase in the number of people in urban areas will necessitate the building of more living quarters, the extension of infrastructure and the construction of more industries (2)	(1 x 2)	(2)
	3.4.3	Fertile soil is being removed (2) Natural habitats of species are being removed (2) Biodiversity and ecosystems are being disturbed (2) Increase of the heat island effect due to artificial production of heat (2) (Any TWO)	(2 x 2)	(4)
	3.4.4	Infrastructure needs constant maintenance (2) Industrial development creates more job opportunities (2) Better infrastructure attracts investment with more employment opportunities (2) Construction of new buildings creates more job opportunities (2) Upskilling of people creates more job opportunities (2)		
		<u>Not positive</u> Unskilled people will struggle to find jobs (2) Expansion into the rural urban fringe will leave people living there with no livelihood (2) (Any FOUR)	(4 x 2)	(8)

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SECTION B

QUESTION 4: CALCULATIONS AND MAP SKILLS

- 4.1 4.1.1 Formula: **Gradient** = $\frac{\text{Vertical Interval (V.I.)}}{\text{Horizontal Equivalent (H.E.)}}$
- Gradient = $\frac{(346,5 - 328,8) \text{ m}}{(4(1) \text{ cm} \times 500) \text{ m}}$ range (1950 – 2050) m
- Gradient = $\frac{17,7(1)}{2000(1)}$
- Gradient = $\frac{17,7}{2000}$
- Gradient = $\frac{17,7}{17,7} : \frac{2000}{17,7} (1)$
- Gradient = 1 : 112,9 **OR** 1 : 113 (1) (Range: 1 : 110 – 1 : 115,8) (5 x 1) (5)
- 4.2 4.2.1 C (1) (1 x 1) (1)
- 4.2.2 D (1) (1 x 1) (1)
- 4.2.3 3 cm x 1,3 cm
(3 x 100) x (1,3 x 100)
300(1) m x 130(1) m
Area: 39 000 m² (1) (3 x 1) (3)
- 4.3 4.3.1 Mediterranean (1)
- Caledon is in the Western Cape (2)
Latitude 34° S (2) (*western part of South Africa*)
(**Any ONE**) (1 + 2) (3)
- 4.4 4.4.1 B (1) (1 x 1) (1)
- 4.4.2 Most rivers are seasonal, and they are in contact with the water-table only in the rainy season (2) (1 x 2) (2)
- 4.5 4.5.1 Dendritic (1) (1 x 1) (1)
- 4.5.2 The rivers flow in the V-shaped valleys (2)
The rivers flow over a uniform steep slope (2)
(**Any ONE**) (1 x 2) (2)
- 4.5.3 North Westerly/NNW direction (1) (1 x 1) (1)
- 4.5.4 Dam wall (Basil Newman Reservoir) is in the northwest (2)
Tributaries join the main river downstream in the NW/NNW (2)
Generally, contour lines bend towards NW/NNW direction (2)
(**Any ONE**) (1 x 2) (2)

4.6	4.6.1	D (1)	(1 x 1)	(1)
4.7	4.7.1	Raster (1)	(1 x 1)	(1)
	4.7.2	Captured images/objects are represented in pixels (2)	(1 x 2)	(2)
	4.7.3	The use of vector data on a topographic map makes map interpretation more user friendly (2) It is easier to obtain data at a glance/quick referencing (2) It makes it easier for data layering (2) Data can be rendered at any scale, as symbols are not drawn to scale (2) Zooming in and out does not change the quality of the topographic data representation (2) (Any TWO)	(2 x 2)	(4)
				[30]
TOTAL:				150