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Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2022

GEOGRAPHY P1
MARKING GUIDELINE

MARKS: 150

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This marking guideline consists of 10 pages.

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PRINCIPLES FOR MARKING GEOGRAPHY – NSC NOVEMBER 2022

The following marking principles have been developed to standardise the marking process.

MARKING

- ALL questions MUST be marked, irrespective of whether it is correct or incorrect.
- Where the maximum marks have been allocated for a particular question, place an over t M remainder of the text to indicate the maximum marks have been achieved.
- A clear neat tick must be used: ✓
  - If ONE mark is allocated, ONE tick must be used ✓
  - If TWO marks are allocated, TWO ticks must be used ✓✓
  - The tick must be place at the FACT that a mark is being allocated for
  - Ticks must be kept SMALL, as various layers of moderation may take place

- Incorrect answers must be marked with a clear, neat cross: ×
  - Use MORE than one cross across a paragraph/discussion style questions to indicate that all facts have been considered.
  - Do NOT draw a line through an incorrect answer.
  - Do NOT underline the incorrect facts

NOTE THE FOLLOWING

- If the numbering is incorrect or left out, as long as the sequence of answers to questions is followed candidates can be credited.
- Spelling errors if recognisable, award the marks provided the meaning is correct.
- Be sensitive to the sense of an answer, which may be stated in a different way
- In questions where a letter is the accepted response but the learner writes the actual answer – award marks.

TOTALLING AND TRANSFERRING OF MARKS

- Each sub-question must be totalled:
  - Questions in Section A has five sub-sections, therefore five sub-totals per question required. Section B has three sub-sections and three sub-totals.
  - Sub-section totals to be written in the right-hand margin at the end of the sub-section and underlined.
  - Sub-totals must be written legibly.
  - Leave space to write in moderated marks on different levels.
- Total sub-totals and transfer total to left-hand margin next to question number
- Transfer total to cover of ANSWER BOOK.

MODERATION

Marking on each level of moderation is done in the same way as the initial marking. All guidelines for marking must be adhered to.

If a mark for a sub-question is changed after moderation, the moderator must strike through the marker's mark and write down the new mark. ~~12~~ 16

The total for the question must be re-calculated and similarly be struck off and the total must be written down. ~~26~~ 36

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SECTION A: CLIMATE AND WEATHER AND GEOMORPHOLOGY

QUESTION 1: THE ATMOSPHERE

1.1	1.1.1	Westerlies (1)		
	1.1.2	Equatorial low-pressure belt (1)		
	1.1.3	Polar winds (1)		
	1.1.4	Easterlies (1)		
	1.1.5	Polar high-pressure belt (1)		
	1.1.6	Sub-Tropical high-pressure belt (1)		
	1.1.7	Equatorial low-pressure belt (1)	(7 x 1)	(7)
1.2	1.2.1	A to B (1)		
	1.2.2	Pressure gradient (1)		
	1.2.3	Coriolis (1)		
	1.2.4	right (1)		
	1.2.5	high (1)		
	1.2.6	geostrophic (1)		
	1.2.7	low (1)		
	1.2.8	gentle (1)	(8 x 1)	(8)
1.3	1.3.1	Date/ 23/07/20 (1) South Indian and South Atlantic high are in a northerly direction (close to the land) (1) Presence of mid-latitude cyclone (cold front) (1) Clear conditions over most of the interior (1) Presence of a coastal low (1) **[ANY ONE]**	(1 x 1)	(1)
	1.3.2	4 hpa/mb (1)	(1 x 1)	(1)
	1.3.3	Air temperature – 19 °C (1) Dew point temperature – 13 °C (1) Cloud cover – clear (1) Wind direction – north-easterly (1) Wind speed – 5 knots (1) **[ANY FOUR]**	(4 x 1)	(4)
	1.3.4	South Indian high (1)	(1 x 1)	(1)

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1.3.5 There will be little/no rain as pressure cell A is close to the land (2)
Less moisture is carried over the sea to Port Elizabeth (2)
High pressure cell has ridged over land causing descending air (2)
[ANY TWO] (2 x 2) (4)

1.3.6 The western side of the country would experience much lower temperatures because of the influence of the cold Benguela current (2)
The eastern side of the country would experience moderate temperatures because of the influence of the warm Mozambique current in winter (2) (2 x 2) (4)

1.4 1.4.1 **A** – Chinook (1)
B – Föhn (1) (2 x 1) (2)

1.4.2 Windward (1) (1 x 1) (1)

1.4.3 On the windward side of the mountains, condensation occurs and moisture is released in the form of precipitation (2)
As the wind rises and moves over the mountain, more moisture is released and eventually becomes drier (2)
On the leeward side, descending air causes the last available moisture to evaporate as it heats up (2)
With descending air on the leeward side, there is no condensation (2)
[ANY TWO] (2 x 2) (4)

1.4.4 **Chinook**:
The warm air melts the snow during winter (2)
This allows for agricultural activities to proceed as water is available (2)
It also causes more pleasant working conditions during the colder months (2)
Melting snow may also cause floods (2)

Föhn:
The physical dehydration of people influences production negatively (2)
Droughts dry up agricultural land (2)
Veld fires destroys agricultural land (2)
[ANY FOUR – Conditions on both continents must be discussed]
(4 x 2) (8)

1.5 1.5.1 Overpopulation (1)
Over-farming (1)
Deforestation (1)
[ANY ONE] (1 x 1) (1)

1.5.2 Area between Saharan desert and Sudanian savannah (1)
Sahel (1)
[ANY ONE] (1 x 1) (1)

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1.5.3 They are subsistence farmers (1)
Dependent on fertile soil as a source for food (1)
Farming is a source of income (1)
[ANY ONE] (1 x 1) (1)

1.5.4 Reduced crop production, therefore less food production/food security (2)
People would die of starvation/malnutrition (2)
A wide spread of poverty, due to job losses (2)
It would lead to rural urban migration (2)
[ANY TWO] (2 x 2) (4)

1.5.5 People from Senegal migrate to other countries to use their resources/ make a living (2)
This puts a strain on the land and less food is produced (2)
Local citizens are unable to feed themselves and depend on government and foreign donations (2)
Conflict between locals and immigrants comes at a great economic cost (2)
Locals and immigrants move to the urban areas which puts more strain on the host country's economy (2)
Immigrants add no value to the GDP of the host countries (2)
[ANY TWO] (2 x 2) (4)

1.5.6 There should be afforestation programmes (2)
Effective soil management that should include organic fertilizers, crop rotation and contour ploughing (2)
Allowing the land to be fallowed for a period of time to renew itself (2)
Supporting local farmers with education and training (2)
Programmes on rainfall unreliability and planting drought resistant crops (2)
Natural action plans that could oversee landownership and encourage sustainable management of land (2)
[ANY TWO] (2 x 2) (4)
[60]

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QUESTION 2: GEOMORPHOLOGY

2.1	2.1.1	D – mesa (1)		
	2.1.2	B – Batholiths (1)		
	2.1.3	A – sill (1)		
	2.1.4	B – hogsback (1)		
	2.1.5	A – dyke (1)		
	2.1.6	C – pediplain (1)		
	2.1.7	A – Canyons (1)	(7 x 1)	(7)
2.2	2.2.1	Pediment (1)		
	2.2.2	Cliff (1)		
	2.2.3	Talus (1)		
	2.2.4	Crest (1)		
	2.2.5	Pediment (1)		
	2.2.6	Cliff (1)		
	2.2.7	Talus (1)		
	2.2.8	Crest (1)	(8 x 1)	(8)
2.3	2.3.1	Horizontally layered rocks (1)	(1 x 1)	(1)
	2.3.2	The plateau has a uniform height (1)	(1 x 2)	(2)
	2.3.3	Rock type on the slopes is not uniform in resistance to erosion (2) Vertical erosion takes place in cracks and joints (2) **[ANY ONE]**	(1 x 2)	(2)
	2.3.4	A succession of fissure eruptions causes thick, smooth fluid basalt (lava) to flow onto the earth's surface (2) The smooth fluid basalt (lava) accumulates horizontally (2) The layers of basalt give rise to a plateau (2) Basalt is evident on the top of the plateau (2) **[ANY TWO]**	(2 x 2)	(4)

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2.3.5 **POSITIVE**
The physical stature of the plateau makes it a tourist/recreational attraction e.g. hiking trails (2)
The rugged and steep slopes encourage extreme sports (accept examples) (2)

NEGATIVE
The elevated terrain discourages human settlements (2)
Rugged and steep slopes are not conducive to farming (2)
High altitude causes low temperatures not suitable for human settlements (2)
High altitude promotes formation of frost that limits agriculture (2)
[ANY THREE] (3 x 2) (6)

2.4 2.4.1 Shale (1)
Limestone (1)
[ANY ONE] (1 x 1) (1)

2.4.2 Inclined layers of sedimentary rock (1)
Gentle dip slope (10–25) (1)
Steeper scarp slope (1)
[ANY TWO] (2 x 1) (2)

2.4.3 A – Dip (1)
B – Scarp (1) (2 x 1) (2)

2.4.4 Slope B forms from softer rock that weathers quickly (2)
Slope A forms from harder rock that weathers slowly (2)
The harder layer at A erodes slower than the softer rock at B (2)
[ANY ONE] (1 x 2) (2)

2.4.5 Volcanic intrusions will cause the strata to tilt (2)
The strata will dip away from the centre or outwards (2)
The dip slope faces outwards and the scarp slope inwards (2)
The intrusion will be dome or mushroom shaped (2)
[ANY TWO] (2 x 2) (4)

2.4.6 Fertile valleys and plains between cuestas are suitable for human activity (2)
Circular valleys between cuestas are suitable for the development of infrastructure (2)
The dip slope can be used for forestry, tourism, recreation and nature conservation (2)
Cuesta basins often yield artesian water (2)
Oil and natural gas (fracking) can be sourced from cuesta domes (2)
[ANY TWO] (2 x 2) (4)

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2.5	2.5.1	Batholith (1) Laccolith (1) **[ANY ONE]**	(1 x 1)	(1)
	2.5.2	Core stones (1)	(1 x 1)	(1)
	2.5.3	Granite (1)	(1 x 1)	(1)
	2.5.4	Chemical weathering in the joints caused them to be broken down in rectangular blocks (2) Widening of the joints due to weathering caused them to be more rounded (2) **[ANY TWO]**	(2 x 2)	(4)
	2.5.5	Cracks and joints develop in granite, under the ground (2) Widens by chemical weathering (2) Mechanical weathering and erosion remove the surface material, leaving the core stones exposed (2) Loose material between the core stones is being eroded through mechanical erosion (2) Base of the tor is still connected to the original intrusion (2) **[ANY FOUR]**	(4 x 2)	(8)
				[60]

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SECTION B

QUESTION 3: MAP SKILLS AND CALCULATIONS

3.1 3.1.1 (a) 203° (1) (range 202° – 204°) (1 x 1) (1)

(b) 203° + (1) 23° 50' = 226°50' (1) (range 225°50' – 227°50') (2 x 1) (2)

3.1.2 (a) Formula: **Gradient = $\frac{\text{Vertical Interval (VI)}}{\text{Horizontal Equivalent (HE)}}$**

Gradient = $\frac{(1\,357{,}5 - 1\,326{,}7) = 30{,}8\text{ m (1)}}{(3{,}9\text{ (1) cm x }500)\text{ m} = 1\,950\text{ m (1)}}$ (range 1900 – 1920) m

Gradient = $\frac{30{,}8}{1\,950}$ (1) [correct substitution]

Gradient = $\frac{30{,}8}{30{,}8} : \frac{1\,950}{30{,}8}$

Gradient = 1 : 63,31 (1) (range: 1 : 61,69 – 1 : 62,34) (5 x 1) (5)

(b) Contour lines are far apart (1)
Gentle slope/flat land/gentle gradient (1)
No obstructions evident (1)
In this area for every 1 unit vertically the horizontal distance is 1 : 63,31/the average gradient is 1 : 63,31 (1)
[ANY TWO] (2 x 1) (2)

3.2 **MAP INTERPRETATION**

3.2.1 C – Cemetery (1) (1 x 1) (1)

3.2.2 A – Spur (1) (1 x 1) (1)

3.2.3 (a) **1** – pointed butte/conical hill (1)

2 – mesa (1) (2 x 1) (2)

(b) Answer: **(1)** pointed butte/conical hill (1) (1 x 1) (1)

Reason:
Smaller hard cap rock area (2)
Elevation of the pointed butte (.1421) is lower than the mesa (.1446/.1454) (2)
[ANY ONE] (1 x 2) (2)

3.2.4 Planting of trees/afforestation allows for infiltration (1)
Building anti-erosion walls prevents run-off (1)
Dams/reservoirs/wind pumps allow for release of water during dry season (1)
Cultivated lands contour ploughed – commercial (1)
River management practiced – buffer along river (1)
[ANY TWO] (2 x 1) (2)

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3.2.5 Answer:
Between 14:00 and 15:00 (1) (1 x 1) (1)

Reason:
The shadows from the highest features fall to the southeast (2) (1 x 2) (2)

3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

3.3.1 (a) **A** – Software/Programmes (1)

B – Data (1) (2 x 1) (2)

(b) People collect the data (1)
People manipulate and process the information (1)
People use the information (1)
People develop GIS programmes and capture data (1)
[ANY ONE] (1 x 1) (1)

3.3.2 (a) Vector (1) (1 x 1) (1)

(b) Infrastructure (1)
Drainage (1)
Topography (1)
[ANY TWO] (2 x 1) (2)

3.3.3 The map has a higher degree of detail and clarity. (2) (1 x 2) (2)
[30]

TOTAL: 150

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