Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2020

GEOGRAPHY P1
MARKING GUIDELINE
EXEMPLAR

MARKS: 150

This marking guideline consists of 9 pages.

SECTION A: THE ATMOSPHERE AND GEOMORPHOLOGY

QUESTION 1

1.1	1.1.1	D (latitude) (1)		
	1.1.2	E (pressure gradient) (1)		
	1.1.3	F (Coriolis) (1)		
	1.1.4	G (monsoon) (1)		
	1.1.5	B (geostrophic) (1)		
	1.1.6	C (offshore) (1)		
	1.1.7	I (Benguela) (1)		
	1.1.8	H (front) (1)	(8 x 1)	(8)
1.2	1.2.1	Polar (1)		
	1.2.2	Hadley (1)		
	1.2.3	Ferrel cell (1)		
	1.2.4	Hadley (1)		
	1.2.5	Polar (1)		
	1.2.6	Ferrel (1)		
	1.2.7	Hadley (1)	(7 x 1)	(7)
1.3	1.3.1	It affects only smaller areas and only blows at certain times of the year (1) [**CONCEPT**]	(1 x 1)	(1)
	1.3.2	Windward (1)	(1 x 1)	(1)
	1.3.3	Moist air rising on the windward side of the mountain (1) Cooling causes water vapour to condense to form clouds (1) Clouds are evident at **A** (1) [**ANY ONE**]	(1 x 1)	(1)
	1.3.4	Moisture is released at the windward side (2) Moisture evaporates as air descents (2) The temperature increases adiabatically as air descents (2) [**ANY TWO**]	(2 x 2)	(4)

1.3.5 There is a possibility of fires that can cause destruction (accept examples) (2)
Vegetation/crops can dry out, affecting agriculture (2)
It can cause dehydration of the vulnerable like children and the aged (2)
It can cause snow to melt in certain countries causing avalanches and floods (2)
Due to floods, avalanches can cause widespread destruction and even death (2)
Crops can get washed away (2)
[ANY FOUR] (4 x 2) (8)

1.4 1.4.1 It causes short term changes to the climate. (1)
[CONCEPT] (1 x 1) (1)

1.4.2 Strong trade winds (1)
Low pressure over Australia (1)
Strong equatorial current (1)
[ANY TWO] (2 x 1) (2)

1.4.3 Warm temperatures over Australia causes a low pressure to develop (2)
Strong trade/tropical easterlies winds push more warm water than usual westwards (2)
Large-scale evaporation and condensation occur (2)
Australia would experience above average rainfall (2)
[ANY THREE] (3 x 2) (6)

1.4.4 The eastern part of Africa may experience more rainfall (floods) than usual, which would fill dams and increase the availability of water (2)
More water would be available for industrial, domestic and agricultural use (2)
This would ensure greater food production by subsistence and commercial farmers (2)
Food would be cheaper and more accessible (2)
The number of imports to the country would be reduced (2)
More income from tourism (2)
More job security in farming and industry (2)
[ANY THREE] (3 x 2) (6)

1.5	1.5.1	'... to curb the Sahara deserts spread' (1)		(1)
	1.5.2	The process where once fertile areas become arid. (1) **[CONCEPT]**		(1)
	1.5.3	'The change in climate and weather patterns ...' (1)		(1)
	1.5.4	Overgrazing (1) Over cultivation (1) Deforestation (1) Subsistence farming (1) Poor irrigation practices (1) **[ANY TWO]**	(2 x 1)	(2)
	1.5.5	Trees promote infiltration and less run off of fertile soil (2) Trees act as windbreaks around fertile soil (2) Trees provide shade and create a nutrient sink (2) Trees increases evapo-transpiration, therefore also rainfall (2) **[ANY ONE]**	(1 x 2)	(2)
	1.5.6	Proper soil management that would include the use of organic fertilisers (2) Land reform programs / laws that encourage the sustainable management of resources (2) Land management that encourages the growth of drought resistant crops (2) Terracing slopes to reduce run off and increase soil moisture (2) Allowing the land to lie fallow (crop rotation) (2) **[ANY TWO]**	(2 x 2)	(4)
	1.5.7	It would restore millions of hectares of fertile lands (2) This would decrease food insecurity / famine in the SAHEL (2) There would be a reduction in land degradation (2) It would help to reduce conflict in the area (2) There would be jobs created / multiplier effect (2) It would reduce mass migration from countries in the SAHEL to other parts of Africa (2) It would reduce carbon dioxide and increase oxygen (2) **[ANY TWO]**	(2 x 2)	(4)
				[60]

QUESTION 2

2.1	2.1.1	C (cuesta dome) (1)		
	2.1.2	D (scarp) (1)		
	2.1.3	G (hogsback) (1)		
	2.1.4	E (dip) (1)		
	2.1.5	F (cuesta basin) (1)		
	2.1.6	H (homoclinal ridge)		
	2.1.7	B (cuesta) (1)	(7 x 1)	(7)
2.2	2.2.1	mudflow (1)		
	2.2.2	soil creep (1)		
	2.2.3	rockfall (1)		
	2.2.4	mudflow (1)		
	2.2.5	landslides (1)		
	2.2.6	soil creep (1)		
	2.2.7	landslides (1)		
	2.2.8	rockfall (1)	(8 x 1)	(8)
2.3	2.3.1	Steep and less steep slopes are alternating (1) The slopes are terraced (1) [**ANY ONE**]	(1 x 1)	(1)
	2.3.2	Dry / Low rainfall / High temperatures (1)	(1 x 1)	(1)
	2.3.3	tourism (accept examples) (1)	(1 x 1)	(1)
	2.3.4	The river established its course on the surface sediments (2) River eroded vertically through cracks and joints (2)	(2 x 2)	(4)

2.3.5 The canyon landscape has resistant top layers that form a protective cap with steep cliffs (2)
The layers below the cap are more easily erodible (2)
Back wasting / scarp retreat causes the cap rock to get narrower and the valley floor wider (2)
The canyon landscape now becomes characterised by flat-topped hills separated by wide, flat plains (2)
Mesas are flat topped hills that are capped by resistant sills and steep cliffs (2)
If the resistant cap is less than half the size of the base, it becomes known as a butte (2)
Pointed buttes develop, with a very small cap rock, with steep slopes (2)
Once the resistant cap is eroded away, the erosion of a mesa or butte results in the formation of a conical hill (2)
[ANY FOUR] (4 x 2) (8)

2.4 2.4.1 Mass of loose core stones (1)
[CONCEPT] (1 x 1) (1)

2.4.2 Igneous rock (1) (1 x 1) (1)

2.4.3 Batholith (1)
Laccolith (1)
[ANY ONE] (1 x 1) (1)

2.4.4 Igneous intrusions are the bedrock in which tors have their base (2)
This bedrock undergoes chemical weathering along joints that form core stones under the surface (2) (2 x 2) (4)

2.4.5 Seeping groundwater enters into cracks and joints of granite rocks underneath the earth's surface (2)
Minerals in the rock become dissolved to form a solution (dissolution) (2)
The rock underneath the ground becomes weakened (2)
Removal of overlying rock layers exposes the core stones of the igneous rocks (2)
[ANY FOUR] (4 x 2) (8)

2.5 2.5.1 A – Crest (1)
B – Cliff (1)
C – Talus (1)
D – Pediment (1) (4 x 1) (4)

2.5.2 ***Slope element A***
Soil creep occur (1)
Slope is convex and gentle (1)
[**ANY ONE**]

Slope element C
It is a uniform slope at the base of the cliff (1)
Falling material are deposited (1)
The angle of the slope remains the same (1)
[**ANY ONE**] (1 + 1) (2)

2.5.3 Pediment (D) (1)
Reasons:
The slope is flat/gentle (2)
Ideal for the use of machinery (2)
The construction of infrastructure is easy and cheap (2)
[**ANY ONE**] (1 + 2) (3)

2.5.4 Slopes are tourist attractions (adrenalin sport practised) (2)
It weathers away to form fertile soil (2)
Recreational activities occur (2)
Forestry is practised on the steeper slopes (2)
Flat areas are suitable for farming (2)
[**ANY THREE**] (3 x 2) (6)
[60]

SECTION B: GEOGRAPHICAL SKILLS AND TECHNIQUES

QUESTION 3

3.1 3.1.1 VI = *1 600 m – 1 235 m* ✓
= 365 m ✓

HE = *1,6* ✓*cm x 500 m*

= 800 m ✓

VI = *1 600 m – 1 235 m* ✓
= 365 m ✓

HE = $\frac{16 \text{ ✓cm} \times 100\,000}{500}$

Range for measurement *[1,59 cm to 1,61 cm]*

OR

= 800 m ✓

Range for HE *[795 m – 805 m]*

G = $\frac{365}{800}$ ✓ (One mark for correct substitution)

= 1 : 2,19 / 1 in 2,19 / $\frac{1}{2,19}$ ✓

G = $\frac{365}{800}$ ✓

= 1 : 2,19 / 1 in 2,19 / $\frac{1}{2,19}$

Range for final answer *[1 : 2,18 – 1 : 2,21]*

(5 x 1) (5)

3.2 3.2 1 **Formula: Vertical exaggeration =** $\frac{\textbf{\textit{Vertical scale}}}{\textbf{\textit{Horizontal scale}}}$

= 1/60 ✓*÷ 1/500* ✓

= 1/60 x 500/1 ✓

= 8,3 times ✓

OR

= 1/6 000 ✓*÷ 1/50 000* ✓

= 1/6 000 x 50 000/1 ✓

= 8,3 times ✓

(4 x 1) (4)

3.2.2 *There is no obstruction between 3 and 4* ✓
There is no high lying/hill between 3 and 4 ✓
[**ANY ONE**]

(1 x 1) (1)

MAP INTERPRETATION

3.3 3.3.1 *B (1)*

3.3.2 *B (1)*

3.3.3 *C (1)*

(3 x 1) (3)

3.4 3.4.1 *High (1)*

(1 x 1) (1)

3.4.2 *South-westerly (2)*

(1 x 2) (2)

3.4.3 *Kosmos (1)*

(1 x 1) (1)

3.5 3.5.1 *Cuesta (1)* (1 x 1) (1)

Evidence
Scarp slope (nearest to dam) has contour lines close together and more gentle dip slope (2)
The dip slope is gentle (10°–25°) to the horizontal (2)
[**ANY ONE**] (1 x 2) (2)

3.5.2 *Protected area / buffer zone (2)*
Gradient maybe too steep – rock falls (2)
[**ANY ONE**] (1 x 2) (2)

GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

3.6 3.6.1 *Data layering/Over-layering/Thematic layering/Layering*
Can explain the process / Write a description (1)
[**ANY ONE**] (1 x 1) (1)

3.6.2 *Transport network – roads and railway lines (1)*
Recreational areas – showing the location of all parks, open areas (1)
Residential suburbs (1)
Industrial areas / sewerage works etc. (1)
[**ANY TWO**] (2 x 1) (2)

3.6.3 *Roads (1)*
Rivers (1)
Houses and buildings (1)
Sewerage works (1)
[ANY ONE – ACCEPT OTHERS] (1 x 1) (1)

3.6.4 *Analyse where the industrial areas are located in relation to rivers / other water sources. (2)*
By pinpointing specific industries within a certain radius of a water source, you may be able to locate the cause. GIS software will allow you to measure distances with ease. (2)
An aerial photograph of the area can be added as a layer or 'theme' which may also shed some light on the matter. (2)
Smoke plumes may be visible; again, indicating which industries may be responsible for air pollution. (2)
[**ANY TWO**] (2 x 2) (4)
[30]

GRAND TOTAL: 150