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Province of the EASTERN CAPE EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2024

GEOGRAPHY P1 MARKING GUIDELINE

MARKS: 150

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This marking guideline consists of 8 pages.

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SECTION A: CLIMATE AND WEATHER AND GEOMORPHOLOGY

QUESTION 1: THE ATMOSPHERE

1.1	1.1.1	Summer (1)		
	1.1.2	Hectopascals (1)		
	1.1.3	4 (1)		
	1.1.4	Saddle (1)		
	1.1.5	Gentle (1)		
	1.1.6	1024 (1)		
	1.1.7	Coastal low (1)		
	1.1.8	Divergence occur from the centre (1)	(8 x 1)	(8)
1.2	1.2.1	B (1)		
	1.2.2	A (1)		
	1.2.3	B (1)		
	1.2.4	A (1)		
	1.2.5	B (1)		
	1.2.6	B (1)		
	1.2.7	B (1)	(7 x 1)	(7)
1.3	1.3.1	Primary circulation refers to circulatory pattern of air on a global scale (2) **[CONCEPT]**	(1 x 2)	(2)
	1.3.2	Hadley cell (1)	(1 x 1)	(1)
	1.3.3	Tropical easterlies (1)	(1 x 1)	(1)
	1.3.4	Associated with warm steady winds (2) Associated with heavy rainfall (2) **[ANY ONE]**	(1 x 2)	(2)
	1.3.5	Cumulonimbus clouds (1)	(1 x 1)	(1)
	1.3.6	Hadley cell forms out of the inter-tropical convergence zone (ITCZ) at the equator (2) The high temperatures at the equator cause air to be heated and rise (2) As the air rises it cools condenses and cause thunderstorms (2) The air sinks back to the surface at 30°N/S (2) At 30ºN/S, some of the air flows back towards the equator (2) **[ANY FOUR]**	(4 x 2)	(8)

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1.4 1.4.1 Föhn winds are warm, dry winds that descends on the leeward side of the mountain (2) (1 x 2) (2)

1.4.2 Berg winds (1) (1 x 1) (1)

1.4.3 A – Wet adiabatic lapse rate (1)
B – Dry adiabatic lapse rate (1) (2 x 1) (2)

1.4.4 The temperature increases by 1 °C/100 m as the air descends. (2)
Moisture evaporates as the air descends (2)
[ANY ONE] (1 x 2) (2)

1.4.5 **NEGATIVE IMPACT:**
Dry, gusty winds will dry out vegetation and ignite fires (2)
Melting of snow resulting in avalanches (2)
Melting of snow resulting in flooding (2)
Flooding may destroy biodiversity (2)
Flooding may cause soil erosion (2)
Fires may cause destruction of the ecosystem (2)
Strong winds will cause soil erosion (2)

POSITIVE IMPACT:
Fires may cause germination of seeds (2)
Flooding will fill up the dams (2) (4 x 2) (8)

1.5 1.5.1 **Drought** refers to a period of abnormal scarcity of rainfall for a period of more than two years (1)
Desertification is a process where once fertile soil becomes arid (1)
(2 x 1) (2)

1.5.2 Changing patterns of rainfall (2)
Increased evaporation (2)
Reduced cloud cover (2)
High temperatures/ greater amount of sunshine (2)
Shifting of weather systems (2)
Low relative humidity (2)
[ANY TWO] (2 x 2) (4)

1.5.3 Desertification (1)
Land degradation (1)
Aggravated poverty (1) (3 x 1) (3)

1.5.4 Water restriction should be imposed in urban areas (2)
Reduce the size of cattle herds to work within the land carrying capacity (2)
Educate the local community on implications and best practises (2)
Plant drought resistant crops (2)
Use of GIS/ satellite images to monitor maps (show the greenness of an area) to evaluate drought and desertification situations (2)
Make plans in advance to store food and organise alternative food supplies (2)
Explore other income generating activities that have less impact on the environment (tourism) (2)
[ANY THREE] (3 x 2) (6)

[60]

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QUESTION 2: GEOMORPHOLOGY

2.1	2.1.1	D Horizontally layered rock (1)		
	2.1.2	B gullies (1)		
	2.1.3	A Bedding plain (1)		
	2.1.4	C scarp retreat (1)		
	2.1.5	B butte (1)		
	2.1.6	A ridge (1)		
	2.1.7	D hogsback (1)		
	2.1.8	A (i) and (ii) (1)	(8 x 1)	(8)
2.2	2.2.1	Z (1)		
	2.2.2	Z (1)		
	2.2.3	Y (1)		
	2.2.4	Z (1)		
	2.2.5	Y (1)		
	2.2.6	Y (1)		
	2.2.7	Z (1)	(7 x 1)	(7)
2.3	2.3.1	Cuesta is a ridge with a dip slope and a scarp slope (2) **[CONCEPT]**	(1 x 2)	(2)
	2.3.2	Dip slope is gentle (1) Scarp slope is steep (1)	(2 x 1)	(2)
	2.3.3	A is a cuesta dome (1)	(1 x 1)	(1)
	2.3.4	Magma cools down, shrinks and sags (2) This causes the rock strata to become tilted (2) Erosion and weathering results in a circular cuesta landscape (2) Dip slope will face inward towards the centre (2) Scarp slope faces outwards (2) **[ANY TWO]**	(2 x 2)	(4)
	2.3.5	Farming takes place in the cuesta valleys and plains (2) Cuestas is used for outdoor activities (picnics, recreation, hand gliding, hot air ballooning) (2) Dip slopes can be used for forestry (2) Cuesta basin is a good source of water for irrigation (2) Cuestas contains oil and natural gas (2) Soft rock layers form fertile soil for farming (2) Circular valleys between cuestas are used for the development of infrastructure (2) **[ANY THREE]**	(3 x 2)	(6)

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2.4 2.4.1 (a) E (1)

(b) H (1) (2 x 1) (2)

2.4.2 Knick point (1) (1 x 1) (1)

2.4.3 Soil creep (2) (1 x 2) (2)

2.4.4 F – The steepest slope element (2)
Characterised by vertical bare rock (2)
The angle of the cliff is more than 80° (2)
[ANY ONE]

G – Characterised by weathered material from the cliff (2)
The slope remains constant (2)
Slope angle is approximately 35° (2)
[ANY ONE] (2 x 2) (4)

2.4.5 Pediment consist of weathered material ideal for farming (2)
Gentle slope favours the establishment of settlements (2)
Gentle gradient allows for construction of recreational grounds/activities (2)
Gentle gradient promotes easy construction of infrastructure (2)
[ANY THREE] (3 x 2) (6)

2.5 2.5.1 Mass movement is the movement of loose material down the slope due to the influence of gravity (2)
[CONCEPT] (1 x 2) (2)

2.5.2 Rock falls (1) (1 x 1) (1)

2.5.3 Deforestation/ removal of vegetation result in fewer roots to bind the soil (2)
Road construction/ quarrying/ blasting at the foot of the slopes can upset the balance of slopes (2)
Building of holiday resorts or houses on steep slopes causes rocks to be unstable (2)
Removal of minerals in mining activities and dumping of waste material cause unstable mine dumps or land fill sites (2)
Recreational activities like mountain bike, cycling, scenic walk and skiing make roads unstable (2)
Incorrect farming methods result in mass movement (2)
Gradient – rapid movement of material is more on a steeper lope than gentle slope (2)
[ANY TWO] (2 x 2) (4)

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2.5.4 Drilling bolts into the sides of the hill slope (2)
Build gabions or small stonewalls of rocks at the base of a slope (2)
Use of wire mesh to hold rocks in place (2)
Spraying concrete on the sides of slopes to stabilise rock slope (2)
Reduce deforestation (2)
Close roads to ensure the safety of people when the slope becomes unstable (2)
Drainage and run off channelling structures to remove excess water (2)
Plant natural vegetation on slopes (2)
Complete environmental impact assessment (EIA) before any development to see if construction will have any impact on stability of the slope (2)
Cutting and filling slopes to stabilise them (2)
Restriction of activities along the slope (2)
Use early warning systems to detect land movement or instability of the slope (2)
[ANY FOUR] (4 x 2) (8)
[60]

TOTAL SECTION A: 120

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SECTION B

QUESTION 3: GEOGRAPHICAL SKILLS AND TECHNIQUES

3.1 MAPWORK SKILLS AND CALCULATIONS

3.1.1 C 25º46'29" S 27º52'40" E (1) (1 x 1) (1)

3.1.2 B 5 m (1) (1 x 1) (1)

3.1.3 C 14:00–17:00 (1) (1 x 1) (1)

3.1.4 6,5 cm (1) x 0,1 = 0,65 km (1)
Range (0,64 – 0,66 km) (2 x 1) (2)

3.1.5 86º (2)
Range (85°–87°) (1 x 2) (2)

3.1.6 VI = 1 465 m – 1 170,7 m = 294,3 m (1)

$$\frac{294,3 \text{ m}}{500} \quad (1)$$

$$= 1 : 1,69 \quad (1)$$ (3 x 1) (3)

3.2 MAP INTERPRETATION

3.2.1 (a) Valley (1) (1 x 1) (1)

(b) Contour lines are forming a v shape pointing up the slope (2)
There is a river passing through the valley (2)
[ANY ONE] (1 x 2) (2)

3.2.2 Holiday resorts (1)
Yatch club (1)
Snake park (1)
Water spout (swimming/ fishing/boat cruises) (1)
Cable way (1)
Archaeological sites (1)
[ANY THREE] (3 x 1) (3)

3.2.3 Conical hill (1) (1 x 1) (1)

3.2.4 Conical hill consist of a distinct conical shape (2)
The opposite sides are longer (2)
Conical hill has a rounded top (2)
[ANY ONE] (1 x 2) (2)

3.2.5 (a) No (1) (1 x 1) (1)

(b) There are buildings in between that act as a barrier (1)
There is vegetation in between the two points that obstruct the view (1)
[ANY ONE] (1 x 2) (2)

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3.3 GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

3.3.1 Data layer is a layer of information based on a specific theme (2)
(1 x 2) (2)

3.3.2 Topography/ Relief (2)
Geology (2)
[ANY ONE] (1 x 2) (2)

3.3.3 (a) Point (1)

(b) Line (1)

(c) Polygon (1) (3 x 1) (3)

3.3.4 Spatial data (1) (1 x 1) (1)
[30]

TOTAL SECTION B: 30
GRAND TOTAL: 150

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