Education and Sport Development
Department of Education and Sport Development
Departement van Onderwys en Sportontwikkeling
Lefapha la Thuto le Tlhabololo ya Metshameko
NORTH WEST PROVINCE

PROVINCIAL ASSESSMENT

GRADE 11

GEOGRAPHY P1

JUNE 2018

MEMORANDUM

MARKS: 225

This memorandum consists of 11 pages.

QUESTION 1

1.1

1.1.1 Subtropical belt✓

1.1.2 Coriolis force✓

1.1.3 High pressure✓

1.1.4 Low pressure✓

1.1.5 Trade winds/Tropical easterlies✓

1.1.6 Westerlies✓

1.1.7 polar easterlies✓ (7 x 1) (7)

1.2

1.2.1 True✓

1.2.2 False✓

1.2.3 True✓

1.2.4 True✓

1.2.5 False✓

1.2.6 True✓

1.2.7 False✓

1.2.8 True✓ (8 x 1) (8)

1.3 **DROUGHT AND DESERTIFICATION:**

1.3.1 A period of below average rainfall✓(Concept) (1 x 1) (1)

1.3.2 When the amount of moisture in the air drops✓✓
Changes in the ocean atmosphere cycle/El Nino event✓✓
Shifts in wind patterns✓✓
Locations in high pressure belts✓✓
Poor land use practices that affects the ability of the land to catch and store water usage✓✓
(Accept any other reasonable answers) ANY THREE (3 x 2) (6)

1.3.3 Developing countries have many people living in rural areas who depend on the land for their livelihood/Subsistence farming✓✓

No variety of crops to fall back on✓✓
No food in storage✓✓
No capital to import food✓✓
Little insurance against drought✓✓
No emergency funds available✓✓
(Accept any other reasonable answers) ANY TWO (2 x 2) (4)

1.3.4 Building dams to store water✓✓
Cloud seeding to artificially increase rainfall✓✓
Desalination of sea water✓✓
Crop rotation to protect soil✓✓
Implementing water restrictions✓✓
Recycling and reuse of water to be implemented✓✓
Re-directing water by using canals to provide irrigation in areas prone to drought✓✓
Harvesting rain water from roof tops✓✓
Development of sustainable agricultural practices✓✓
Education to change attitude towards water usage✓✓
(Accept any other reasonable answers) ANY FOUR (4 x 2) (8)

1.4 **LANDSLIDES:**

1.4.1 Landslide refers to a sudden movement of a block of the land surface✓✓ (Concept) (1 x 2) (2)

1.4.2 On hill slopes✓✓ (1 x 2) (2)

1.4.3 A landslide may fall across a river, damming the water✓✓
A new lake can form✓✓
Flooding can result due to damming of water✓✓
Can cause great destruction across a wide area of habitat land✓✓
Destruction of vegetation✓✓
Houses destroyed✓✓
Farmland/Crops destroyed✓✓
People killed/buried alive✓✓ ANY THREE (3 x 2) (6)

1.4.4 Using wire to hold the rock place✓✓
Building gabions at the base of the slope✓✓
Spraying concrete on the side of the slope to stabilize the rock slope✓✓
Drilling bolts into the side of the hill slope✓✓
Covering slopes with nets✓✓
Avoid development along unstable slopes✓✓
Using early signs to detect land movements and instability of slopes✓✓
Completing environmental impact study before development on steep slopes✓✓
Closing roads to ensure safety of people when slopes become unstable✓✓
Building roofs over roads along steep slopes✓✓
(Accept any other reasonable answers) ANY FOUR (4 x 2) (8)

1.5 **FÖHN WIND:**

1.5.1 Föhn wind – A warm, dry wind that descend on the leeward side of a mountain✓ (1 x 1) (1)

1.5.2 Dry out forest plantations areas✓✓
Causes veld fires✓✓
Melting snow✓✓
Melts snowfalls✓✓
Causes flooding when snow melts✓✓
(Accept any other reasonable answers) ANY THREE (3 x 2) (6)

1.5.3 Results from moist air rising up the windward slopes✓✓As this air rises it cools the adiabatic temperature gradient✓✓
While the air is still unsaturated, air cools at the dry adiabatic lapse Rate(DALR) of 1ºC per 100 metres✓✓But once condensation begins, the rising air cools at the saturated lapse rate(SALR) of about 0,5ºC per 100 metres✓✓Such cooling causes water vapour to condense and form cloud and rain or snow occurs on the windward side✓✓As the air descend on the leeward side of mountain, it warms up rapidly at the DALR of about 1ºC per 100 metres, because there is now very little moisture in the air✓✓This descending warm air is called Föhn wind. ANY THREE (3 x 2) (6)

1.6 **LANDFORMS:**

1.6.1 A Mesas/Table mountain✓✓ (1 x 2) (2)

B Buttes✓✓ (1 x 2) (2)

C Conical hill✓✓ (1 x 2) (2)

1.6.2 The Karoo✓✓ (1 x 2) (2)

1.6.3 They have the same height✓✓
They are both capped with hard rock✓✓ ANY ONE (1 x 2) (2)

1.6.4 In humid climates the slopes of hills are suitable for farming✓✓
Basaltic landscapes are great tourist attractions✓✓
Some plateaus (e.g Deccan Plateau in India) are suitable for Human settlement and agriculture✓✓
Canyons landscapes have impressive scenery and are tourist attractions✓✓
Canyons landscapes can be used for recreational purposes, for example hiking and abseilling✓✓
Karoo landscapes are suitable for stock farming✓✓ANY ONE (1 x 2) (2)

1.7 **TILTED LANDFORMS:**

1.7.1 A Cuesta✓✓ (1 x 2) (2)

B Homoclinal ridge✓✓ (1 x 2) (2)

C Hogsback✓✓ (1 x 2) (2)

1.7.2 P Dip slope✓✓ (1 x 2) (2)

Q Scarp slope✓✓ (1 x 2) (2)

1.7.3 Slope is not too steep and the soil is deep enough to plough✓✓ (1 x 2) (2)

1.7.4 They are tilted/Inclined✓✓ (1 x 2) (2)

1.7.5 Haartebeespoort near Rustenburg✓✓ (1 x 2) (2)

1.8 **CLIMATE ZONES:**

1.8.1 A- Mediterranean forest and scrub✓✓ (1 x 2) (2)

B- tropical rain forest✓✓ (1 x 2) (2)

C- Desert and semi desert✓✓ (1 x 2) (2)

1.8.2 Libya- Desert✓✓ (1 x 2) (2)

Madagascar –tropical rainforest- temperatures are high all year round✓
Steppe-characterized by semi-arid and continental climate✓ (1 x 2) (2)

1.8.3 Low rain fall✓✓
Poor soil fertility✓✓
Very hot temperatures✓✓ ANY TWO (2 x 2) (4)

1.8.4 Savannah-summers are hot with rainfall and winters are dry and mild✓✓ (1 x 2) (2)

1.8.5 E- Bushveld✓✓
Grassveld✓✓
Baobab✓✓
Acacia✓✓
Mopane trees✓✓ ANY ONE (1 x 2) (2)

B- Tall trees with layered canopies✓✓
Trees with buttress roots✓✓ ANY ONE (1 x 2) (2)

1.8.6 Savannah grassland✓-exist because the air above is sinking and drying out with seasonal rainfall occurring mainly in summer✓ (2 x 1) (2)

[115]

QUESTION 2

2.1

2.1.1 100%✓

2.1.2 Sun✓

2.1.3 3% + 16%=19%✓

2.1.4 20% + 4%=24%✓

2.1.5 15%✓ (5 x 1) (5)

2.2

2.2.1 Laccolith✓

2.2.2 Lopolith✓

2.2.3 Batholith✓

2.2.4 Dyke✓

2.2.5 Sill✓ (5 x 1) (5)

2.3 **CUESTAS:**

2.3.1 A ridge that develop in tilted sedimentary rock characterized by a gentle slope and steep slope✓✓ (Concept) (1 x 2) (2)

2.3.2 **A**- forms when the rock strata in the centre are pushed upwards✓✓
B-forms when rock strata in the centre are pushed downwards✓✓
(2 x 2) (4)

2.3.3 Dip slope is gentle ✓✓
Scarp slope is steep✓✓ (2 x 2) (4)

2.3.4 Farming takes place in the Cuesta valleys situated between the ridges, as the flat surface is covered in fertile soil✓✓
Where cuesta basins form, artesian well, which are sources of groundwater, are found✓✓
These basins can also form oil traps✓✓
These ridges are of strategic importance, as they can protect settlements on the cuesta valley floors during times of war✓✓
Many outdoor activities are concentrated in these landscaping e.g hang gliding and hot air ballooning✓✓ ANY TWO (2 x 2) (4)

2.4 **SYNOPTIC WEATHER MAP:**

2.4.1 Cold front✓✓ (1 x 2) (2)

2.4.2 Temperature will decrease or drop✓✓
Air pressure will increase✓✓
Heavy rainfall with thunder and lightning will occur✓✓
Cumulonimbus clouds will increase✓✓
Change in wind direction✓✓
Decrease in humidity✓✓ ANY TWO (2 x 2) (4)

2.4.3 Air temperature–27ºC ✓
Dewpoint temperature– -12ºC✓
Cloud cover–1⁄8 very little clouds✓
Wind direction– NW/WNW✓
Precipitation–No precipitation✓
Wind speed–5knots (6 x 1) (6)

2.4.4 1012hpa✓ (1 x 1) (1)

2.5 **GEOSTROPHIC FLOW:**

2.5.1 (a) Geostrophic flow–winds that blow parallel to isobars, under the combined effects of pressure gradient force and Coriolis force✓ (Concept) (1 x 1) (1)

(b) Pressure gradient–it is the amount of change in atmospheric pressure between high and low pressure areas✓ (Concept) (1 x 1) (1)

(c) Pressure gradient force– the force that causes the air to move from high pressure area towards low pressure area along pressure gradient✓(Concept) (1 x 1) (1)

2.5.2 Coriolis force✓✓
Pressure gradient force✓✓ (2 x 2) (4)

2.5.3 Strength of Coriolis force increases towards the poles/less at equator or weak at equator and more at the poles✓✓ (1 x 2) (2)

2.6 **PROCESS:**

2.6.1 Scarp retreat/Backwasting✓✓ (1 x 2) (2)

2.6.2 Slopes eroding back,parallel to their original position✓✓ (1 x 2) (2)

2.7 **ELÑINO AND LAÑINA:**

2.7.1 (a) ELÑINO– Climate change brought about warm conditions in the Pacific ocean✓✓(Concept) (1 x 2) (2)

(b) LAÑINA–an unusual cooling of surface water in the eastern Pacific, accompanied by stronger upwelling✓✓(Concept)
(1 x 2) (2)

2.7.2 Flooding✓✓ (1 x 2) (2)

2.7.3 Droughts lead to veld fires and smoke can affect health of people✓✓
Dust storm can cause diseases✓✓
Affects fishing–decrease in world supply of fish✓✓
Drought lead to crop failure that leads to poverty✓✓
Shortage of water supply✓✓
Extreme heat can cause diseases✓✓
Drier conditions can cause famine✓✓ ANY FOUR (4 x 2) (8)

2.7.4 Both have the same number of occurrences✓✓
Both influences winter time atmospheric flow across the eastern North Pacific✓✓
Both have abnormal ocean temperatures in the Pacific✓✓
ANY TWO (2 x 2) (4)

2.7.5

ELÑINO	LAÑINA
They can last from 9-12 months✓✓	They last for 1-3 years✓✓
Low winds that cause less upwelling	Powerful winds that push currents and causes large amount of upwelling✓✓
Warmer temperatures✓✓	Cooler water✓✓
Brings violent storms like hurricanes✓✓	Less chance for clouds to form✓✓

ANY TWO (2 x 2) (4)

2.8 **MASS MOVEMENTS:**

2.8.1 Movement of debris down the slope under the influence of gravity✓✓ (Concept) (1 x 2) (2)

2.8.2 Soil creep✓✓ (1 x 2) (2)

2.8.3 Bent tress/Curved tree trunk✓✓
Leaning posts✓✓
Broken retaining walls✓✓
Roots exposed✓✓
Terracettes✓✓
Bending of strata✓✓ ANY TWO (2 x 2) (4)

2.8.4 using wire to hold the rocks in place✓✓
Building gabians at the base of the slope✓✓
Spraying concrete on the side of the slope to stabilize the rock

slope✓✓
Drilling bolts into the side of the hill slope✓✓
Covering slopes with nets✓✓
Using early signs to detect land movements of slopes✓✓
Avoid development along unstable slopes✓✓ ANY THREE (3 x 2) (6)

2.9

2.9.1 A wind that shows a complete reversal in direction seasonally✓ (Concept) (1 x 1) (1)

2.9.2 Strong high pressure over the continental interior✓✓
Water takes longer to cool down than land, the winter temperatures are much warmer than the central regions of the adjacent continent a low pressure therefore forms over ocean✓✓.Cool, dry winds blow off-shore from the continental high towards the low pressure region over the ocean resulting in no, or little rainfall during winter months. ✓✓The wind blows from the north east. ✓✓
ANY TWO (2 x 2) (4)

2.9.3 Moist air from the warm oceans to the south is drawn into the Interior by the low pressure. Convergence and high mountains cause the warm moist air to rise, cool and produce heavy rain✓✓ (1 x 2) (2)

2.10

2.10.1 A–Crest/Summit✓
B–Free face/Escarpment/Cliff✓
C–Talus/Debris/Scree✓
D–Pediment✓ (4 x 1) (4)

2.10.2 Ana area that separate talus from pediment✓(Concept) (1 x 1) (1)

2.10.3 Convex in shape ✓✓
Found on top of the hill✓✓
Also called Waxing slope✓✓
Thin layer of soil ✓✓ ANY TWO (2 x 2) (4)

2.10.4 Rockfall✓ (1 x 1) (1)

2.10.5 People build homes on slopes when space is limited or for the view that the will have from their homes✓✓
People use steep slopes for forestry✓✓
Orchards and vineyards are found on slopes with a gentler gradient✓✓
Mountainous areas with steep slopes are popular for activities such as hiking trails, climbing, skiing, mountain biking and horse trails✓✓
Mountainous areas with steep slopes are good for their aesthetic appeal✓✓ ANY FOUR (4 x 2) (8)

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TOTAL: 225

COGNITIVE LEVELS

QUESTION	TOPICS		TAXONOMY LEVELS			
	The atmosphere	Geomorphology	Knowledge/ Remembering 30%	Understanding/ Applying 50%	Analysis, Evaluating and Creating 20%	Total
Expected Marks per question	**57**	**58**	**36**	**56**	**23**	**115**
1.1	7		7			7
1.2		8	8			8
1.3.1	1			1		1
1.3.2	6			6		6
1.3.3	4				4	4
1.3.4	8				8	8
1.4.1		2		2		2
1.4.2		2		2		2
1.4.3		6		6		6
1.4.4		8			8	8
1.5.1	1			1		1
1.5.2	6			6		6
1.5.3	6			6		6
1.6.1		6		6		6
1.6.2		2	2			2
1.6.3		2		2		2
1.6.4		6		6		6
1.7.1		6	6			6
1.7.2		4	4			4
1.7.3		2			2	2
1.7.4		2			2	2
1.7.5		2	2			2
1.8.1	2		2			2
1.8.2	4			4		4
1.8.3	4			4		4
1.8.4	2			2		2
1.8.5	4		4			4
1.8.6	2		2			2
Total	**57**	**58**	**37**	**54**	**24**	**115**
Expected Marks per question	**55**	**55**	**34**	**54**	**22**	**110**
2.1	5		5			5

2.2		5	5			5
2.3.1		2		2		2
2.3.2		4		4		4
2.3.3		4		4		4
2.3.4		4		4		4
2.4.1	1		1			1
2.4.2	4			4		4
2.4.3	6			6		6
2.4.4	1		1			1
2.5.1(a)	1		1			1
2.5.1(b)	1		1			1
2.5.1(c)	1		1			1
2.5.2	4			4		4
2.5.3	2			2		2
2.6.1		2	2			2
2.6.2		2		2		2
2.7.1(a)	2			2		2
2.7.1(b)	2			2		2
2.7.2	2		2			2
2.7.3	8				8	8
2.7.4	4		4			4
2.7.5	4		4			4
2.8.1		2	2			2
2.8.2		2		2		2
2.8.3		4		4		4
2.8.4		6			6	6
2.9.1	1		1			1
2.9.2	4			4		4
2.9.3	2			2		2
2.10.1		4	4			4
2.10.2		1	1			1
2.10.3		4		4		4
2.10.4		1	1			1
2.10.5		8			8	8
Total	**55**	**55**	**36**	**52**	**22**	**110**