PHOENIX SOUTH CLUSTER PAPER

GRADE 11

GEOGRAPHY PAPER 1

JUNE 2019

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MARKS: 225

MODERATOR: A. SINGH

TIME: 3 HOURS

THIS QUESTION PAPER CONSISTS OF 8 PAGES INCLUDING
THE COVER PAGE

INSTRUCTIONS AND INFORMATION

- 1. The question paper consists of TWO questions.
- 2. BOTH questions should be answered.
- 3. All diagrams are included in the ANNEXURE.
- 4. Number your answers correctly according to the numbering system used in this question paper.
- 5. Start each question at the top of a new PAGE.
- 6. Leave a line between subsections of the questions.
- 7. Where relevant, illustrate your answers with labelled diagrams.
- 8. Write clearly and legibly.

QUEST	ION 1						
1.1	Various options are given as possible answers to the following questions. Choose the correct answer and write down only the letter (A ~ D) next to the question number.						
	1.1.1	Lines on a synoptic chart joining places of equal pressure are A isotherms B isobars C isohyets D contours					
	1.1.2	A warm wind which blows from the interior of South Africa towards the east coast in winter is the A chinook B adiabatic C berg D zonda					
	1.1.3	The wind which results from the balance between Corioli's Force and the Pressure Gradient Force is the A geostropic B monsoon C trade D gradient					
	1.1.4	An extended zone of High Pressure is known as a/an A anticyclone B ridge C trough D cyclone					
	1.1.5	Major winds which blow all year round over large expanses of the earth's surface are A tropical winds B jet stream C westerly winds D planetary winds					
	1.1.6	Rain that occurs when air rises and cools up the side of a mountain is A orographic B convectional C cyclonic D frontal					

	1.1.7	 Which of these is NOT a characteristic of Corioli's Force? A does not occur within 5° of the equator B deflects winds on the earth's surface C decreases in strength from the equator to the poles D is a result of the earth's rotation 	7 × 1	[7]
1.2		e the correct word/phrase to complete each sentence correctly.		
	Write	down only the question number and the word.		
	1	basalt, pediplain, poort, primary erosion, Kalahari depression, concave, coastal plain, escarpment, knickpoint, dolerite, secondary erosion, convex, peneplain, Little Karoo		
	1.2.1	The upper layers of the Drakensberg consist of a thick layer of		
	1.2.2	The edge of the South African plateau is bordered by the		
	1.2.3	The lowest area of the South African plateau is the		
	1.2.4	The area between the Cape Fold Mountains and the Great Karoo is the		
	1.2.5	A nearly flat plain formed by the erosion of slopes in a dry environment is a		
	1.2.6	A slope which has developed from the erosion of the land by water is a slope of		
	1.2.7	A slope which is steep at the top and more gentle at the base is aslope.		
	1.2.8	A sharp change in the gradient of a slope is a/an	8 x 1	[8]
1.3	Refer t	to FIGURE 1.3 illustrating the Tri-Cellular Atmospheric circulation and answer the		
	questi	ons that follow.		
	1.3.1	Name the cells labelled A, B and C.	3 x 1	(3)
	1.3.2	a. Is the area marked E, an area of high or low pressure?	1 x 1	(1)
		b. Explain why air rises at E.	1 x 2	(2)
		c. Give a reason for your answer to question 1.3.2 (a).	1 x 2	(2)
	1.3.3	a. Name the surface wind labelled D.	1 x 1	(1)
		b. Explain the formation of wind labelled D.	3 x 2	(6)
				[15]

1.4	Refer	Refer to FIGURE 4 illustrating major ocean currents and answer the questions that follow.									
	1.4.1	Name the ocean currents labelled 1, 2 and 3.	1 x 3	(3)							
	1.4.2	Explain the effect ocean current 3 has on the coastline past which it									
		flows.	2 x 2	(4)							
	1.4.3	(a) The river mouths of north eastern Canada (C on the map) are									
		frozen during winter. With reference to the adjacent ocean									
		current, explain why this occurs.	2 x 2	(4)							
		(b) How will this affect shipping during the winter months?	1 x 2	(2)							
	1.4.4	Discuss the role ocean currents have in maintaining the earth's									
		heat balance.	2 x 2	(4)							
				[17]							
1.5	Refer	to FIGURE 1.5 illustrating the formation of the Monsoon Winds over India and	answer th	е							
		ons that follow									
	1.5.1	Define the term Monsoon Wind.	1 x 1	(1)							
	1.5.2	(a) Is the wind labelled A, the South Westerly or North Easterly									
		Monsoon?	1 x 1	(1)							
		(b) During which season does wind A blow – summer or winter?	1 x 1	(1)							
		(c) Explain why wind A brings heavy rain to northern India.	3 x 2	(6)							
	1.5.3	Write a short paragraph in which you describe the effects of the rain-									
		bearing Monsoon winds on the people of northern India.									
		Mention both positive and negative effects.	4 x 2	(8)							
				[17]							
1.6	Dofor	FIGURE 1.6: Illustration a Variable and annual the automother that follows	low								
1.6	1.6.1	to FIGURE 1.6 illustrating a Karoo Landscape and answer the questions that fol	3 x 1	(2)							
	1.6.2	Identify the landforms labelled A , B and C . Under what climatic conditions does the landscape in Figure 1.6 develop?	1 x 2	(3)							
	1.6.3		1 X Z	(2)							
	1.0.5	What role does the rock layer labelled D play in the development of this landscape?	2 x 2	(4)							
	1.6.4	Explain how landform A will, in time, become similar to landform B.	2 x 2	(4)							
	1.0.4	Explain now landiothi A will, in time, become similar to landiothi B.	4 N 4	[13]							
				[LJ]							
1.6	Refert	o FIGURE 1.7 illustrating landforms associated with inclined strata and answer	the								
	questi	ons that follow.									
	1.7.1	Identify the slopes labelled P and Q.	2 x 1	(2)							
	1.7.2	(a) Name the landforms labelled A, B and C.	3 x 1	(3)							
		Choose from the following list:									
		Hogsback, plateau, cuesta, homoclinal ridge									
		(b) What distinguishes these three landforms from one another?	3 x 2	(6)							
	1.7.3	Refer to the landform labelled A.									
		Describe how this landform will erode and change over time.	4 x 2	(8)							
				[19]							

- Refer to FIGURES 1.8A and 1.8B showing two landforms associated with 1.8 massive igneous rock and answer the following questions. Refer to Figure 1.8A 1.8.1

(a)	Identify this landform.	1×1 (1)
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- (b) Listed below are five steps in the formation of this landform. Place these steps in the correct order, by writing down the numbers corresponding to each step.
 - i uplift occurs, rock exposed
 - ii mass of rock beneath earth's surface with widely spaced joints
 - weathered material is removed iii
 - chemical weathering along cracks beneath earth's iv surface
 - 5 x 1 (5) balancing rocks remain
- 1.8.2 Refer to FIGURE 1.8B
 - 1 x 1 (1)Identify this landform. (a) 1 x 2 (2) From what igneous intrusion did this landform develop? (b)
 - (4)2 x 2 Explain how this landform maintains its rounded shape over time. (c)
- Suggest how man can make use of these landforms. 3 x 2 (6)1.8.3 [19]

TOTAL QUESTION 1: 115

QUESTION 2

- Choose the correct word from within the brackets to make each sentence correct. 2.1 Write down only the question number and word.
 - Places close to the sea have a (maritime/continental) climate. 2.2.1
 - Sea breezes blow onshore during the (day/night). 2.2.2
 - During July the ITCZ (Intertropical Convergence Zone) is overhead the 2.2.3 Tropic of (Cancer/Capricorn).
 - 2.2.4 Maritime climates have a (large/small) temperature range.
 - El Niño is characterised by warmer temperatures in the western (Pacific/ 2.2.5 5 x 1 [5] Atlantic) Ocean.

2.2 The names of igneous intrusions are listed in Column A. Choose the correct definition from Column B to match each intrusion. Write down only the question numbers and letter corresponding to correct definition.

COLUMN A	COLUMN B
2.2.1 Batholith	A. Vertical sheet of magma which has intruded
2.2.2 Sill	into a vertical crack
2.2.3 Dyke	B. Large mass of magma at great depth beneath
2.2.4 Lopolith	the earth's surface
225 Laccolith	C. Mushroom shaped intrusion of magma
	 D. Horizontal layer of magma between existing rock layers
	E. A gap between homoclinal ridges
	F. Saucer shaped intrusion found at depth

5 X 1 [5]

2.3 Refer to **FIGURE 2.3A** illustrating a moist air mass moving inland and rising over a mountain Range and **FIGURE 2.3B** showing the temperature changes of the air mass as it moves over the mountain range and answer the questions that follow.

OVCILI	ic illou	ittain range and answer the questions that ronover		
2.3.1	Which	n side of the mountain represents the windward side (A or B)?	1 x 2	(2)
2.3.2	Defin	e the term rainshadow.	1 X 2	(2)
2.3.3	Refer	to Figure 2.3 B.		
	(a)	At what height is condensation level?	1 x 2	(2)
	(b)	What is the atmospheric temperature at condensation level?	1 x 2	(2)
	(c)	Explain why the temperatures at 800 m differ on sides A and B		
		of the mountain range.	2 x 2	(4)
				[12]

2.4 Refer to **FIGURE 2.4** showing the movement of the earth around the sun and answer the questions that follow.

questi	ons tha	t follow.			
2.4.1	Distin	Distinguish between the revolution and the rotation of the earth.			
2.4.2	(a)	Describe the tilt of the earth's axis.	1 x 2	(2)	
	(b)	The Southern hemisphere has mid-summer on 21 December and			
		mid-winter on 21 June.			
		Explain the role that the tilting of the earth's axis plays in the			
		occurrence of these seasons.	2 x 2	(4)	
2.4.3	Give t	he date on which each of the following occur:			
	(a)	North pole has 24 hours of sunlight			
	(b)	Northern hemisphere experiences spring equinox			
	(c)	Southern hemisphere experiences autumn equinox.	3 x 2	(6)	
2.4.4	Explai	in what is meant by an equinox.	1 x 2	(2)	

[1.8]

2.5	Refer 2.5.1 2.5.2	to FIGURE 2.5 an article on desertification and answer the questions that follow. Distinguish between desertification and drought.	2 x 2	(4)
		(a) According to the article, in which two areas of the world, will		
		the worst desertification be experienced in the foreseeable future?	2 x 1	(2)
		(b) Discuss two ways in which poor farming methods have resulted in		
		desertification.	3 x 2	(6)
		(c) Write a short paragraph discussing the effect of desertification on		
		farming communities. Mention both social and economic effects.	4 x 2	(8)
				[20]
2.6	Pofor	to FIGURE 2.6 showing the elements of a slope and answer the questions that fol	low	
2.0	2.6.1	Identify the slope elements A, B, C and D .	4 x 1	(4)
	2.6.2	Give one characteristic of each of the elements labelled A and B .	2 x 2	(4)
	2.6.3	(a) Describe the nature of slope element C .	2 x 2	(4)
	2.0.5	(b) Why does this slope element maintain a constant angle		1 1
		over time?	2 x 2	(4)
	2.6.4	Why is the slope element D well-adapted to carrying run-off after		1 1
	2107	a thunderstorm?	1 x 2	(2)
				[18]
2.7		to FIGURE 2.7 showing the different types of mass movements in relation to		
		ire and speed and answer the questions that follow.		(a)
	2.7.1	Define the term mass movement.	1 x 1	(1)
	2.7.2	(a) Which mass movement occurs most rapidly under:		
		i wet conditions	2 2	141
		ii dry conditions?	2 x 2	(4)
		(b) Explain your answers to Question 2.7.2 (a).	2 x 2	(4)
	2.7.3	The slowest of the mass movements is termed soil creep(creep). Explain	22	(4)
		why soil creep is so slow.	2 x 2	27 6
	2.7.4	Name two results of soil creep.	2 x 2	(4)
				[17]
2.8	Refer 1	to The photograph in FIGURE 2.8 showing of the aftermath of a landslide and ans	wer the	e
		ons that follow.		
	2.8.1	Define the term landslide.	1 x 1	(1)
	2.8.2	What could have caused such a landslide to occur?	3 x 2	(6)
	2.8.3	Write a short paragraph describing the effects which the landslide		
		would have had on the people living on the hillside.		
		Also mention how the landslide might have been prevented.	4 x 2	(8)
				[15]
		GREENBURY SECONDARY SCHOOL TOTAL QUESTION 2: 1	10	
		DEPARTMENT OF HSS GRAND TOTAL: 225		

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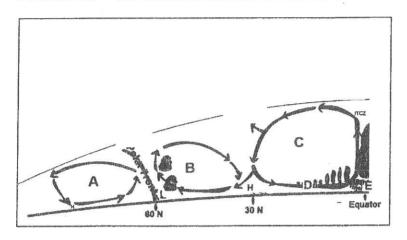
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GRADE 11

GEOGRAPHY
PAPER 1
JUNE EXAMINATION
2019
ANNEXURE

This ANNEXURE consists of 8 pages, including the cover page.

FIGURE 1.3 TRI-CELLULAR ATMOSPHERIC CIRCULATION



SOURCE: Google Images

FIGURE 1.4 OCEAN CURRENTS

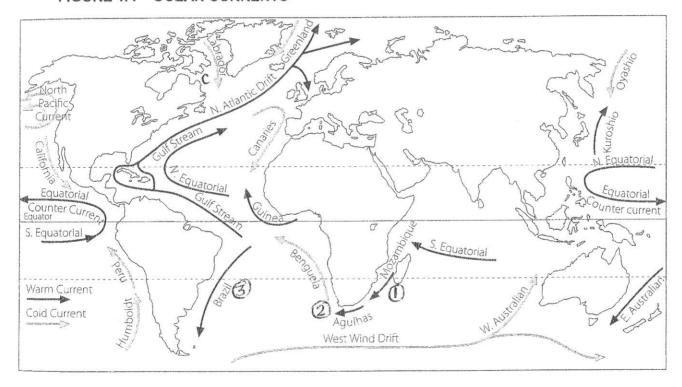
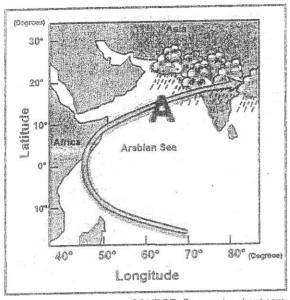


FIGURE 1.5 MONSOON WINDS OVER INDIA



SOURCE: Geography.about.com

FIGURE 1.6 KAROO LANDSCAPE

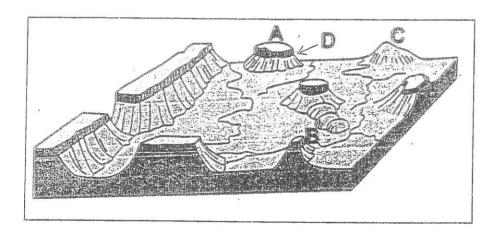


FIGURE 1.7 LANDFORMS ASSOCIATED WITH INCLINED STRATA

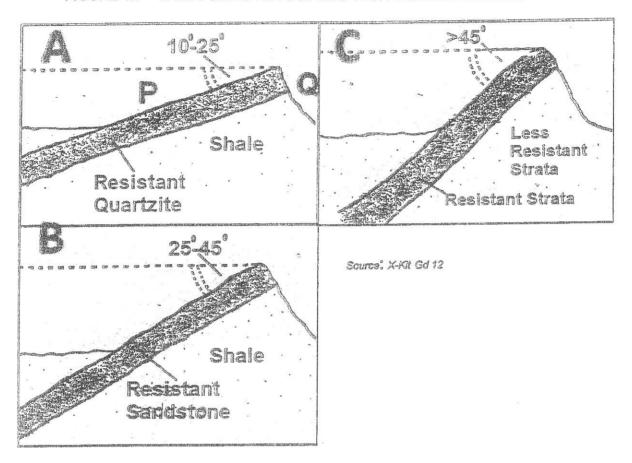
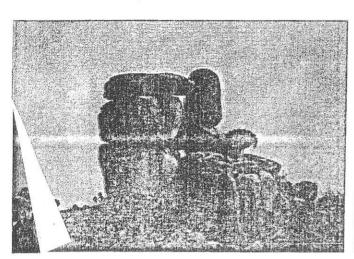
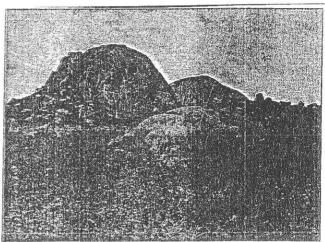


FIGURE 1.8 LANDFORMS OF MASSIVE IGNEOUS ROCK 1.8A

1.8B

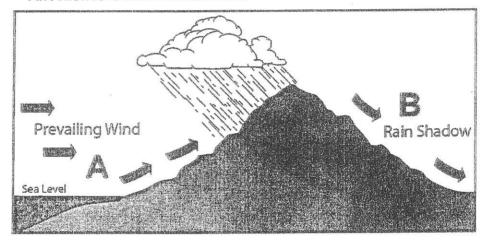




SOURCE: Google Images

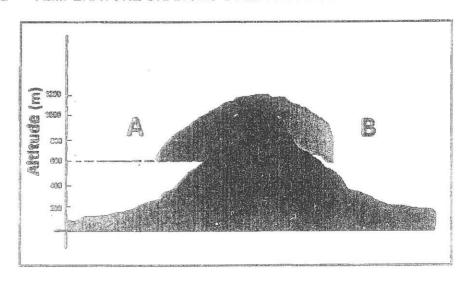
FIGURE 2.3A

AIR RISING OVER A MOUNTAIN



SOURCE: www/suu.edu/faculty

FIGURE 2.3B TEMPERATURE CHANGES OVER A MOUNTAIN



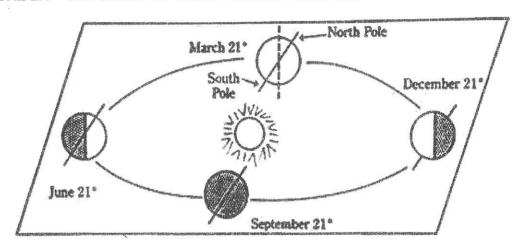


FIGURE 2.4 MOVEMENT OF EARTH AROUND THE SUN

SOURCE: Eastern Cape Education Department

FIGURE 2.5 REPORT ON DESERTIFICATION

Tens of millions of people could be driven from their homes by encroaching deserts, particularly in sub-Saharan Africa and Central Asia, a report from the United Nations says.

If action is not taken, the report warns that some 50 million people could be displaced within the next 10 years. One third of the earth's population – home to about two billion people – are potential victims of its creeping effect.

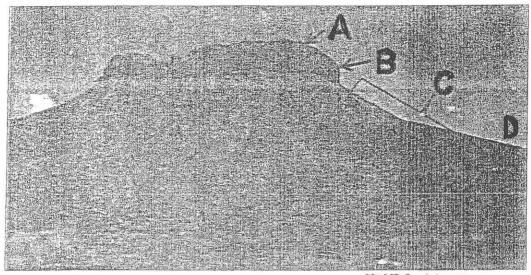
Desertification has emerged as an environmental crisis of global proportions, currently affecting an estimated 100 to 200 million people, and threatening the livelihoods of a much larger number.

The overexploitation of land and unsustainable irrigation practices are making matters much worse, while climate change is also a major factor degrading the soil.

People displaced by desertification put new strains on natural resources and on other societies nearby. The largest area affected was probably sub-Saharan Africa, where people are moving to northern Africa or Europe.

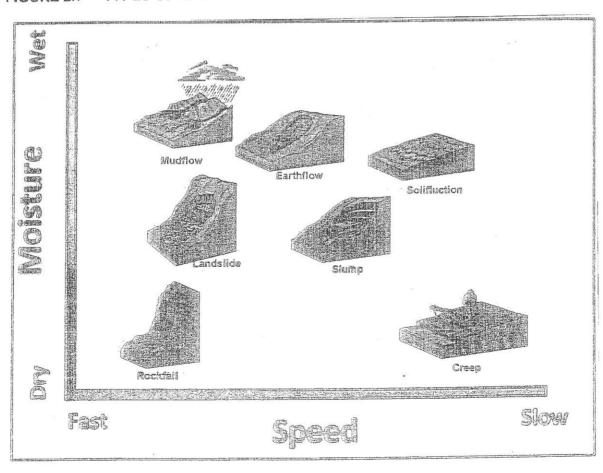
SOURCE: BBC NEWS (edited)

FIGURE 2.6 SLOPE ELEMENTS



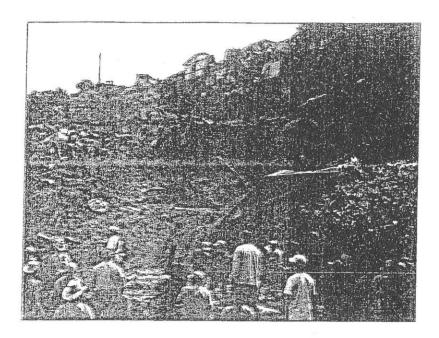
SOURCE: Google Images

FIGURE 2.7 TYPES OF MASS MOVEMENT



Source: Geography.about.com

Figure 2.8 AFTERMATH OF A LANDSLIDE



SOURCE: www.edu/faculty/colberg



GRADE 11

GEOGRAPHY
PAPER 1
JUNE EXAMINATION
2019
MARKING GUIDELINES

This MARKING GUIDELINES consists of 7 pages, including the cover page.

QUESTION 1

1.1	1.1.1 1.1.2 1.1.3 1.1.4 1.1.5 1.1.6 1.1.7	B C A B D A C	7 X 1	[7]
1.2	1.2.1 1.2.2 1.2.3 1.2.4 1.2.5 1.2.6 1.2.7 1.2.8	basalt escarpment Kalahari depression Little Karoo pediplain primary erosion concave knickpoint	8 x 1	[8]
1.3	1.3.1 1.3.2 1.3.3	A polar cell B Ferrel cell C Hadley cell (a) Low pressure (b) Warm air rises/ air is moist and therefore rises (c) Surface convergence of air causes it to rise (a) Tropical easterlies/ easterlies/ north easterlies (b) High pressure at 30°N, Low pressure at equator, wind blows towards the equator	3 x 1 1 x 1 1 x 2 1 x 2 1 x 1 3 x 2	(3) (1) (2) (2) (1) (6) [15]
1.4	1.4.1 1.4.2 1.4.3 1.4.4	 Aghulhas/Mozambique Benguela Brazil Warm ocean current, warms the coastline past which it flows/ causes increased humidity along coast and higher rainfall (a) Washed by the cold Labrador current/ very cold conditions result in freezing of river mouths (b) Harbours cannot be used during winter months Currents moving away from the equator are warm and transfer heat towards the polar regions/ currents moving away from the poles are cold and transfer cool conditions towards the equator 	3 x 1 2 x 2 2 x 2 1 x 2	(3) (4) (4) (2) (4) [17]

${\bf Downloaded\ from\ Stanmore physics.com}$

		3		
1.5	1.5.1 1.5.2	Seasonal wind occurring mainly in the tropical regions. (a) south westerly (b) summer (c) During summer, Siberian Plateau becomes hot, low pressure develops/ ocean (Arabian Sea) is relatively cool, develops high pressure.	1 x 1 1 x 1 1 x 1	(1) (1) (1)
		Moist air is drawn in from the ocean over northern India, resulting in extremely heavy rainfall	3 x 2	(6)
	1.5.3	Positive: fills dams, water for crops, water for human usage Negative: may cause flooding, damage to crops and property loss of life, damage to infrastructure (Must mention at least one positive / negative effect) (Other answers may be accepted)	y, 4 x 2	(8) [17]
1.6	1.6.1	A mesa B butte		
	1.6.2	C conical hill / spitskop dry/ arid/ little rain	3 x 1 1 x 2	(3) (2)
	1.6.3 1.6.4	Horizontal layer of hard rock, resistant to erosion/ protects the underlying rock layers The mesa (A) maintains its height due to the protective	2 x 2	(4)
	1.0.4	layer of rock (D)/ erodes by scarp retreat over time will be reduce to a butte (B)	2 x 2	(4) [13]
1.7	1.7.1	P Dip slope Q Scarp slope	2 x 1	(2)
	1.7.2	(a) A cuesta B homoclinal ridge C hogsback	3 x 1	(3)
	1.7.3	(b) The difference in the degree of tilt of the rock layers/ cuesta has smallest degree of tilt/ hogsback has the greatest degree of tilt Erosion takes place on the exposed rock surface (scarp)/ slope retreats due to scarp recession and undercutting of	3 x 2	(6)
		scarp slope/ landform cuts back into dip slope/ process referred to homoclinal shifting	4 x 2	(8) [19]

1.8.1	(a)	tor			1 X 1	(1)
	(b)	ii				
		iv	3 x 2	all correct		
		i	2 x 2	3/4 correct		
		iii	1 x 2	1/2 correct		
		V			5 x 1	(5)
1.8.2	(a)	dome/ granite o	lome		1 x 1	(1)
	(b)	batholith			1 x 2	(2)
	(c)	Subject to weat	hering by ex	foliation (onion skin		3 3
					2 x 2	(4)
1.8.3	Recr	eation, hiking, sce	nic beauty, to	ourist attractions	3 x 2	(6)
			•			[19]
	1.8.2	1.8.2 (a) (b) (c)	(b) ii iv iv i iii v 1.8.2 (a) dome/ granite of (b) batholith (c) Subject to weat weathering)/ lay	(b) ii iv 3x2 i 2x2 iii 1x2 v 1.8.2 (a) dome/ granite dome (b) batholith (c) Subject to weathering by eximple weathering)/ layers of rock plandform maintains rounded	(b) ii iv 3 x 2 all correct i 2 x 2 3/4 correct iii 1 x 2 1/2 correct v 1.8.2 (a) dome/ granite dome (b) batholith (c) Subject to weathering by exfoliation (onion skin weathering)/ layers of rock peel off over time/ landform maintains rounded shape	(b) ii iv 3 x 2 all correct i 2 x 2 3/4 correct iii 1 x 2 1/2 correct v 5 x 1 1.8.2 (a) dome/ granite dome (b) batholith 1 x 2 (c) Subject to weathering by exfoliation (onion skin weathering)/ layers of rock peel off over time/ landform maintains rounded shape 2 x 2

TOTAL QUESTION 1: 115

QUESTION 2

2.1	2.2.1 2.2.2 2.2.3 2.2.4 2.2.5	maritime day Cancer small Pacific	5 x 1	[5]
2.2	2.2.1 2.2.2 2.2.3 2.2.4 2.2.5	B D A C F	5 x 1	[5]
2.3	2.3.1	A	1 x 2	(2)
	2.3.2	Dry area on the leeward side of a mountain. Rain has fallen on the side of the prevailing winds (a) 600m (b) 14° C (c) Temperature on side A cools above condensation level at the wet adiabatic lapse rate (0,5° C per 100 m).	1 x 2 1 x 2 1 x 2	(2) (2) (2)
		Temperature on side B warms at a rate of 1° C per 100 m. Therefore, the temperature on side B is warmer.	2 x 2	(4) [12]

	2.4	2.4.1	Revolution – movement of the earth in an orbit around the sun, once in 265 ¼ days Rotation – spinning of earth on its axis, once in 24 hours (a) Earth's axis has a constant tilt at 23 ½ ° to the vertical. (b) On 21 December, the southern hemisphere is tilted towards the sun, therefore it experiences mid-summer. On 21 June, the southern hemisphere is tilted away from the sun, therefore it experiences mid-winter. (a) 21 June (b) 21 March (c) 21 March Equal lengths of day and night experienced on the earth's surface.	2 x 2 1 x 2	(4) (2)
		2.4.3		2 x 2 3 x 2	
				1 x 2	(2) [18]
	2.5	2.5.1	Drought – a long period with little or no rainfall. Desertification – the process whereby once fertile areas become increasingly less fertile and more arid. (a) sub-Saharan Africa, central Asia (b) Overexploitation of land Overgrazing of land – too many cattle, vegetation	2 x 2 2 x 2	(4) (4)
			Over-cultivation of land – planting same crops each year, not allowing soil to rest Deforestation and removal of natural vegetation – soil deteriorates Population growth and increased pressure on the land Soil loses fertility, vegetation deteriorates, no protection for soil, leads to soil erosion (Other answers acceptable) (c) Reduced crop production – leads to food shortages, famine, malnutrition Fewer crops available for exportation – affects farmers and whole economy Farmers may slaughter cattle, initially meat cheap, then more expensive as becomes scarce Food may have to be imported – expense for Government Job losses in farming Industries using agricultural products suffer People move from rural to urban areas Subsistence farmers move to areas where there is water, may lead to conflict across political borders (Other answers acceptable)	2 x 2 4 x 2	(8)
					[20]

2.6	2.6.1	A crest B cliff, scarp, free face C talus, scree D pediment A Convex curve/ thin layer of soil B vertical cliff face/ composed of resistant rock/ too steep		
	2.6.22.6.32.6.4		4 x 1	(4)
		for accumulation of weathered material (a) Made of eroded material from the crest and scarp.	2 x 2	(4)
		Material accumulates at the base of the scarp. (b) Material weathers and accumulates at the same rate,	2 x 2	(4)
		so slope maintains constant angle Pediment is a low-angle concave slope, slightly steeper closer to the base of the talus slope.	2 x 2	(4)
		Run-off in the form of sheetwash is carried across the pediment after heavy rain	1 x 2	(2) [18]
2.7	2.7.1 2.7.2	The downward movement of material on a slope (a) i mudflow	1 x 2	(2)
		 ii rockfall (b) Mudslides occur under wet conditions, the material is saturated and therefore moves extremely quickly downslope. 	2 x 2	(4)
		Rockfalls occur under dry conditions. Rocks are in "free fall" and therefore reach the base of the slope fast.	2 x 2	(4)
	2.7.3	Soil creep involves the slow movement downslope of individual grains of soil. Slope usually covered in vegetation, which protects the soil and prevents it from moving fast.		
		Occurs on gentle to moderate slope. Trees bend downslope, fences bend and break, soil accumulates at base of slope, telephone lines bend downslope, walls break due to accumulation of soil on	2 x 2	(4)
		their upper side, small terracettes develop on slope	2 x 2	(4) [18]

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2.8 2.8.1 Sudden movement of material downslope, large masses of 1×2 (2) material break loose and plunge down the slope. 2.8.2 Earthquake, heavy rainfall, deforestation of slopes, building on steep slopes, quarrying at the base of slope, building of roads on slopes without proper retaining walls $2 \times 2 \quad (4)$ 2.8.3 Death and injury to people Destruction of houses and property Damage to transport routes and infrastructure Damage to agricultural fields Prevention – restrict development on slopes prone to landslides/ maintaining vegetation on slopes/ stabilize slopes with concrete or wire mesh/ proper drainage on slopes/ arrangements for disaster management (Answer must include at least one effect and one prevention) $4 \times 2 \quad (8)$ [14]

7

TOTAL QUESTION 2: 110

GRAND TOTAL: 225

