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312/1 MS GEOGRAPHY Paper 1 MARKING SCHEME DECEMBER 2022

THE KENYA NATIONAL EXAMINATIONS COUNCIL

KENYA CERTIFICATE OF SECONDARY EDUCATION

GEOGRAPHY

Paper 1

MARKING SCHEME (CONFIDENTIAL)

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 (b) State two ways through which aspect influences distribution of natural Vegetation. Windward slope of mountainschills support growth of a wide variety of particle vegetation. The leeward side supports scanty vegetation. The south facing slopes of temperate latitude areas of the Northern Itemisphere tend to favour luxuriant growth of forfst, while the North facing slopes encourage the growth of grass [file North facing slopes encourage the growth of grass [file North facing slopes according to the particle of the North facing slopes encourage the growth of grass [file North facing slopes according to the particle of the part				
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 different soils down a slope. (2) Ways in With (2 marks) (b) State three importance of soil texture. is if wy whent It influences the ease of plant root penetration into the soil. It regulates the soil water content. It controls aeration of the soil. It controls the availability and retention of nutrients within the soil. Any 3 x 1 = It controls the size and spacing of pores in the soil. 3 		from the surface to the bedrock, while soil catena is the sequence of		
Ways in which (2 marks) (b) State three importance of soil texture. 15 1 wy when? - It influences the ease of plant root penetration into the soil. - It regulates the soil water content. - It controls aeration of the soil. - It controls the availability and retention of nutrients within the soil. - It controls the size and spacing of pores in the soil. - It controls the size and spacing of pores in the soil.		different soils down a slope.		2
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- It controls the availability and retention of nutrients within the soil. - It controls the size and spacing of pores in the soil. $\sqrt{3 \text{ marks}}$ (3 marks) 3		It controls continue fully it is in		
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- It controls the size and spacing of pores in the soil. (3 marks)		 It controls the availability and retention of nutrients within the soil. 	Any 3 x 1 -	
5		- It controls the size and spacing of pores in the soil.	(3 marks)	2
				3
				-/

SECTION B.

	Antener appearing & sectors	
11 (A.)	Study the man of any other two questions from this se	etion
	Provided and	
	and answer the following questions:	
	Give the longitudinal extent of the area	
	34"45"1 to 35"00.1	
		(1 mark)
(11)	Name the three human-made features in the sold	1
	0193	
	Main track (motorable track)	
	- Plantation	
	- Agricultural Department.	
	- Houses 🗸	
	- Built up areas	
		Any 3 x 1 = (3 marks)
	two	-
(111)	Identify the methods used to show relief on the map.	
	- Contours.	٨
0	- Trigonometrical stations	2
	- Rech & child dimming pretimed	(2 marks)
/ * (iv)	Calculate the area of Kisumu town. Give your answer in	
5	quare kilometres.	
	Complete squares = $5 \times 1 = 5 \text{ km}\text{s}^2$	
	Incomplete squares = $16 \text{ x} \frac{1}{2} = \frac{8 \text{ km}^2}{2}$	2
	Total area <u>13 km² + 0.5</u> (12.5 - 13.5	(2 marks)
(v) N	iame two types of natural vegetation. Found in the wich &	over they the Map.
-	Scrub 🦯	
-	Scattered trees \checkmark	
-	Woodland V	21
-	Papyrus 🗸	Any $2 \times 1 = (2 \text{ marks})$
		312/1 MS 4

EAAMINATIONS -

(b)	ta Ta	
	State two ways through which aspect influences distribution of natural	
	Windows to the	
	Windward slope of mountains/hills support growth of a wide variety of D	
	- The leavest side as	
	The South facing classes for the back of the block of the	
	Hemisphere tend to foreign lumping and a few shifts the Northern	$Any 2 \times 1 =$
	facing slopes encourage the growth of grass. The North forung glope (2 marks)
4. ★ (a)	What is a mineral?	fronthe & grand 3
	- It is an inorganic substance occurring naturally beneath/at earth's	
	surface.	
		(2-marks)
	Both of the	\angle \angle
(b)	Classify the following rocks according to their formation:	
	Marble - Metamorphic	
	Granite - Igneous	
	Mudstone - Sedimentary	3x1=
		(3 marks)
		1 3
5.*(a)	Differentiate soil profile from soil catena.	t
	- Soil profile is the vertical arrangement of the soil into layers/horizons	
	from the surface to the bedrock, while soil catena is the sequence of	
	different soils down a clone (1	
	different soils down a slope.	×.
	Ways in which	(2 mark s)
(b)	State three importance of soil texture. is 1 wey when t	
	- It influences the ease of plant root penetration into the soil.	
	- It regulates the soil water content	
	- It controls aeration of the soil.	
	- It controls the availability and retention of nutrients within the soil	Anv 3 x 11-
	- It controls the size and spacing of pores in the soil V	(2 modes)
	and and and append of pores in the soll."	(<u>s mars</u>) 3





e withinked to	Describe the distribution of	f settlement in the area covered	
Perter Since	by the map.		
and free here	- There are few clustered s	ettlements within the plantation.	
1 212 1 24	- There are are few/no settl	lements in the poorly drained	
in the set	areas/seasonal /swamp/w	inam gulf	
	 Dense/clustered settlement 	nts are found within Kisumu town	1
2	and the surroundings/mar	ket centres/well drained areas.	
	- There is linear settlement	along the roads.	
	 There are no settlements of 	on Nyando escarpment in the	
	- North East	the the NET	Apy 4
(d)	Citing evidence from the ma	ap, give three economic	$\operatorname{riny} + x + = (4 \operatorname{marks})$
1-1	activities carried out in the a	area covered by the map:	
y mon a	ACTIVITY	EVIDENCE	
SUNCI	Transportation	Roads/motorable	
der.		track/railway	
0	Trade	Markets E Trailing Cent	4
	Quarrying A	Quarries E	_
	Crop farming	Cotton ginnery/agricultural	_
		research stations/sisal factory	plan technin.
	Milling A Processing	Flour milling	1. catur.
7	Communitation VA	FRIDE ADDING	Anv 3x2=(6 mode)
7. (a)	What is faulting?	Azi	tation felaphine lat
	Faulting is a process of	En	66
	fracturing/breaking/cracking/di	splacement of crustal rocks due	125
	to tensional/compressional/shea	ar forces. due to technic F	(2 marks)
(b)	Apart from the Rift Valley, n	ame three other features H	- Cernarks)
	resulting from Faulting	They	
(i)	 Fault blocks/horst mountain 	ns/block mountains	
	- Tilt blocks		
	- Fault steps	C	$Any 3 \times 1 = (3 marks)$
	- Escoppient (taults	scaner	7
	Schoning Kildrant	7 haykes	کـر

197	State three tradi	tional	metho	ds of s	veath	er for	ecasti	ng						
	 Observing movement of animals and migration of birds 													
	 Observing changes in plants/shedding of leaves. 													
	- Observing he	ivenly	bodies	appea	rance	of the	moor	n						
	- Observing changes in the wind patterns													
	- Observing cha	anges ii	n temp	cratur	e	1ste	.61	n) (a	' por l'		1	Any 37	my 3 x 1=	
	- Southard C	Last	r cla Vita) H	C SIA M L Z	12					1	(3 mark	3	
		6			<i>v</i>								ation	
(0)	X in Africa. Use	ble bel it to a	ow sh nswer	ows to quest	emper tion b	ature (i) and	and i d b(ii)	rainfal)	ll amoi	unts f(or a s	jiven s	4101	
	Month	J	F	М	A	М	J	J	Α	S	0	N	D	
	Temperature (°C)	27	27	26	25	23	22	21	21	22	23	25	26	
	Rainfall (mm)	366	376	452	399	264	282	302	203	132	99	117	262	
(is)	Calculate:	tampo										(2 m	arks)	
	Calculate: Annual range of $27^{\circ}C - 21$	temper ${}^{0}C = 6$	rature ⁰ C		- 1							(2 ma	ar ks)	
	Calculate: Annual range of $27^{0}C - 21$ (2) Total annual rain	temper $^{0}C = 6$	rature ⁰ C V									(2 ma	arks)	
	Calculate: Annual range of $27^{0} C - 21$ (2) Total annual rain 366 + 376 + 4	temper $^{0}C = 6$ ifall 452 +	rature ⁰ C 2 399 +	264 +	- 282	+ 302	+ 203	3 + 132	2 + 99	+ 177	+	(2 m	arks) arks)	
	Calculate: Annual range of $27^{0} \text{ C} - 21$ (2) Total annual rain 366 + 376 + 262 = 3254 m	temper $^{0}C = 6$ afall 452 +	rature ⁰ C 2 399 +	264 +	- 282	+ 302	+ 203	3 + 132	2 + 99	+ 177	+	(2 m	arks) arks)	
(*)	Calculate: Annual range of $27^{0} \text{ C} - 21$ (2) Total annual rain 366 + 376 + 262 = 3254 m (2)	temper $^{0}C = 6$ of all 452 +	rature ⁰ C 2 399 +	264 +	- 282	+ 302	+ 203	3 + 132	2 + 99	+ 177	+	(2 m	arks) arks)	
(ii)	Calculate: Annual range of $27^{0} C - 21$ (2) Total annual rain 366 + 376 + 262 = 3254 m (2) Describe the clin	temper $^{0}C = 6$ afall 452 + am and and and and and and and and	ondit	264 +	- 282	+ 302 statio	+ 203	3 + 132	2 + 99	+ 177	+	(2 ma	arks) arks)	
(i)	Calculate: Annual range of $27^{0} C - 21$ $(2)^{2}$ Total annual rain 366 + 376 + 262 = 3254 m $(2)^{2}$ Describe the clinic - It experiences	temper $^{0}C = 6$ of all 452 + m matic c s high r	ature ⁰ C 399 + ondit	264 + ions o	- 282 f the s /325	+ 302 statio	+ 203	3 + 132 ually	2 + 99	+ 177	+	(2 m)	arks) ærks)	
(i)	Calculate: Annual range of $27^{0} C - 21$ $(2)^{2}$ Total annual rain 366 + 376 + 262 = 3254 m $(2)^{2}$ Describe the clim - It experiences - Temperatures	temper $^{0}C = 6$ afall 452 + matic c s high r are high	ature ^o C 399 + ondit rainfal gh thr	ions o l total	- 282 f the s /325 out the	+ 302 statio 54 mm year.	+ 203	3 + 132 ually	2 + 99	+ 177	+	(2 m)	arks) arks)	
(i)	Calculate: Annual range of $27^{0} C - 21$ $(2)^{2}$ Total annual rain 366 + 376 + 262 = 3254 m $(2)^{2}$ Describe the clinic - It experiences - Temperatures - Low annual to	temper $^{0}C = 6$) afall 452 + m antic c s high r are high empera	ature ⁰ C 399 + ondit rainfal gh thr ature r	ions o l total ougho	- 282 s /325 out the 6 ⁰ C.	+ 302 statio 54 mm year.	+ 203	3 + 132 ually	2 + 99	+ 177	+	(2 m) (2 m)	arks) arks) -+=	
(i)	Calculate: Annual range of $27^{0} C - 21$ $(2)^{2}$ Total annual rain 366 + 376 + 262 = 3254 m $(2)^{2}$ Describe the clinic - It experiences - Temperatures - Low annual to - The wettest m	temper $^{0}C = 6$) afall 452 + matic c s high r are high emperation on the interval of the second sec	ature ^o C 399 + ondit rainfal gh thr ature r s marc	ions o l total ougho ange/ ch	- 282 f the s /325 out the 6° C. 452	+ 302 statio 54 mm year.	+ 203	3 + 13 ually	2 + 99	+ 177	+	(2 m) (2 m) (2 m)	arks) arks) -t= narks)	
(i)	Calculate: Annual range of $27^{0} C - 21$ $(2)^{2}$ Total annual rain 366 + 376 + 262 = 3254 m $(2)^{2}$ Describe the clinic - It experiences - Temperatures - Low annual to - The wettest m - There is no difference of the clinic - The clinic of the	temper $^{0}C = 6$ afall 452 + natic c s high r are high emperation on the interval of the second seco	ature ^o C 399 + ondit rainfal gh thr ature r s mare th thr	ions o l total ougho ch ougho	= 282	+ 302 statio 54 mm year.	+ 203	3 + 132 ually	2+99 rel th	+ 177	+	(2 m) (2 m) (2 m) (4 m)	arks) arks) -t= narks)	
(i)	Calculate: Annual range of $27^{0} C - 21$ (2) Total annual rain 366 + 376 + 262 = 3254 m (2) Describe the clim - It experiences - It experiences - Low annual to - The wettest m - There is no do - October received	temper $^{0}C = 6$ of all 452 + and 452 + and 5 are high are high are high are high ry month ves the	ature ^o C 399 + ondit ainfal gh thr ature r s marc ath thr e lowe	264 + ions o l total ougho ch / ougho est rain	+ 282 of the s /325 out the 6^{0} C. 452 out the out the	+ 302 statio 54 mm year.	+ 203	3 + 13 ually here 19	2+99 nul the terr	+ 177	+	(2 m) (2 m) (4 m)	arks) arks) -t= narks)	

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addflow alanche n how each of the following factors facilitate mass wasting. ure of the rock assive tooks overlying weak rocks move/ slide faster along the slope age rocks are likely to be overcome by gravity more easily than ely weathered materials. eply dipping rocks will easily experience movement. then materials contain a lot of water they are lubricated and become ceptible to rapid movement. man activities man activities such as ploughing/ clearing of vegetation/ mining/ arrying affect the stability of surface materials causing their vement downslope. ernal forces from moving vehicles/ earth tremors from explosives ke the ground causing some materials to move downslope. me of the human activities create favourable conditions for other tors to exert their influence moving the material casily and rapidly. a the effects of mass wasting on the environment.	2 marks_{2} Any 2 x 2 = 4 marks_{4} Any 2 x 2 = 4 marks_{4}
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tors to exert their influence moving the material easily and rapidly.	4 marks 4
n the effects of mass wasting on the environment.	
0	
dslides may cause rivers to change their course reducing the water	
ume downstope. downatraum	
ss wasting leads to formation of derelict land with scars which spoils	s
beauty of the environment.	
r Walting Leads to slye without the under large materials	
ting to loss of lives	
delides cause damage to property when materials cover roads/	
ns/ homes /	
vement of materials downslone facilitates the loosening of the top	
increasing weathering SO Son /	
increasing weathering. Et a sport of	
ss movement may create sceneries that may become tourist	Any 4 x 2 = 0
actions.	_ 8 marks ()
	beauty of the environment. Walting Leads to formation of defendent line with scales which spon Walting Leads to some start with the scales which spon weathing leads to some start with scales which spon ing to loss of lives. adslides cause damage to property when materials cover roads/ ms/ homes. wement of materials downslope facilitates the loosening of the top l increasing weathering. EN SIME ss movement may create sceneries that may become tourist actions. Mental for landslider Create alarma activity

Crag and tail class block of rock stands on the path of oncoming glacier
 A large block of the soft weak rock fragments from the upper side of The moving ice plucks off weak rock fragments from the upper side of
the rock i
eroded materials to the lee side.
The leeward side does not experience erosion,)
- Eroded materials are deposited on the leeward side of the rock Upside Rack
 With time the moving ice smoothers the side of the oresting ice time deposited materials increase on the lee side.
- The resistant rock is the crag while the materials deposited on the lee

- Glaciated mountains discourage human settlements hence growth of forests and therefore lumbering is practiced.
- U-shaped valleys form natural route ways.
- Fiord coastline form deep well sheltered natural habours/ good fishing grounds.
- Glaciated upland areas form magnificent features that encourage recreation/ tourism.
- Waterfalls formed in glaciated uplands provide suitable sites for hydroelectric power production.

The warm glaciated valleys are suitable for livestock farming/ cultivation.
Glacial evoring explorer Minemels leading to unifying
Methy Glaclers from vives which furnite unif for dome Aric [unlumber] Agricultur] ver

6 marks

6 marks

(d)	You intend to carry out a field study in an area affected by landslides	
	within the vicinity.	
	(1) Give three reasons why it is important to seek permission from the school administration.	
	- To enable the administration provide essential tools for use during the	
	field study.	
	- It is an official requirement.	
	- To enable the administration to take care of the disruptions of the	
	 To enable the administration arrange for transport/ lunch. 	
	- To enable the administration to take the necessary safety precautions.	Amiter =
	- To a nullette adminimizer provite suby fee it	-3 marks 3
	(ii) State the advantages of studying landslides through fieldwork.	
	- It enables learners to apply the knowledge learned in the classroom.	
	- It makes learning interesting. (Brights CUH) Monstowy	
	- It helps learners to develop manipulative skills.	
	- It enhances retention of memory.	
	- It provides detailed/ indepth/ broader learning.	Any 4x =
	- It makes learning real. Meaning ful	4 marks μ
10.	Name two mountains in East Africa that are ice capped.	
(a) (i)	- Mt Kenya.	2
	- Mt Kilimanjaro	(2 marks)
(ii)	Give two types of moraine	
	- Lateral.	
	- Terminal. / Recefficial	
	- Medial	
	- Englacial	
	- Ground/subglacial	(2 marks)
	- Nuch warne	2
	- Dealter Monaine	

A DESCRIPTION OF A



1.	Give the three forces which have such it	
(a)	earth.	
	- Centrifugal force.	
	- Centripetal force	
	- Gravitational force	
(b)	Name the minerals that make up the	(3 marks)
2	- Iron -	5
-	Nickel	
2. (a) 1	ist two examples of volegoic imposure	(2 marks)
-	Pumice Pu	
-	Basalt - Tepluiter	
-	Obsidian - Tuff	
-	Trachyte	
-	Rhyolite	
-	Andesite	
-	SCOUTA W	Anv 2 + 1 -
	Phone lite -	(2marks)
(b) Gi	ve three characteristic of the	() 2
	the characteristics of sedimentary rocks.	
-	They form from pre-existing/original make	
-	They have cleavage/bedding planes.	
-	They form horizontal layers/are stratified.	
	Some and	
- 1	here bedding plant fossils	
- N	any are Multichation	Any $3 \times 1 =$
(a) Apa	rt from aspect, list three other factors that is a	(5 marks)
distr	ibution of natural vegetation	
- A	ltitude /	
- T	errain Clovel Gradient	
- D	rainage	
- 0	imate	$Anv 3 \times 1 -$
	in zt-latz (L. L.	
- So	ils / Eduphic faith	(3 marks)
- 13	iotic factory	
- Hu	MRM APATINITY	

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