THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

231/1 -

BIOLOGY

- Paper 1

Nov. 2018 - 2 hours

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Can	didate	's Sigi	nature												•••••
(a) (b) (c) (d) (e) (f)	ructior Write ye Sign and Answer All answ This pa Candida indicate	our nar d write all the vers mu per con ates sh	andicathe day	lates index ate of e ons in written of 9 pr check t	number examina this qu in the inted p inted pus	er in the ation ir estion spaces cages. estion are mis	e space the sp paper. provide paper ssing.	es provoaces p	provide godina ertain (d abov	2013	2018 20 18 2018 2 2018 2018 2018 KG	18 2d 2018 718 1 2019 SE 2d 2019	ted as	
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Answer all the questions in the spaces provided.

1.	(a)	Name the cell organelle found in abundance in the white blood cells.	
	(b)	Give a reason for your answer in (a) above.	(1 mark)
2.	State	e two observable features that place a millipede into its Class.	(2 marks)
3.		ch sets of teeth would be used in chewing sugarcane for maximum extraction	of sap? (2 marks)
		groen ground and a second	
		"AND!	
4.	A gro	oup of form two students placed a fresh leaf in warm water. They observed the don the surface of the leaf.	nat air bubbles
	(a)	What biological process were they investigating?	(1 mark)
		.0.	
	(b)	Name the structures from which the air bubbles were coming from.	(1 mark)
	(c)	Explain the distribution of the structures named in (b) above on the leaf suland plant.	rfaces of a (2 marks)

5.	State why it is important for plants to lose water to the atmosphere.	(3 marks)
6.	The diagram below illustrates tissue fluid and cells surrounding a capilla	ary.
	Red blood cell	S
	Body cells &	
	Tissue fluid	
	Fluid G	
	Red blood cell Body cells Tissue fluid Fluid G Name fluid G.	(1 mark)
	(ii) Give two ways by which fluid G is different from tissue fluid.	(2 marks)

7.	(a)	Define respiration.	(1 mark)
	(b)	State three activities in the human digestive system that depend on resp	(3 marks)
463			
8.	State	e three ways in which blood capillaries are structurally adapted to their fun	ctions. (3 marks)
		Nes.	
		ge ^Q o	
		"illoge"	
9.	The	diagram below represents an organ in a bony fish.	
	(a)	Name the organ.	(1 mark)
	(b)	Describe how air in water reach the capillaries inside structure L.	(3 marks)
		Kenya Certificate of Secondary Education. 2018	

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10.	Nam	ne two products of respiration in plants.	(2 marks)

11.	(a)	State one homeostatic role of the human skin.	(1 mark)
	(b)	Name three structures of the skin essential for its homeostatic function.	(3 marks)
12.	Expla	ain why the nephron is long and convoluted.	(3 marks)
		"W. 1/6"	
		istina	
		Self-S	,
13.	State	two limitations of using a quadrat to estimate the population of organisms.	(2 marks)
		No kitos	••••••



14. The diagram below illustrates a germinating seedling.



	(a)	Name the type of germination illustrated in the diagram.	(1 mark)
	(b)	Describe how the type of germination named in (a) above is brought about.	(3 marks)
		zstpap ⁶	
		LCS QUE	
15.	Expl	ain why a bony fish dies shortly after being removed from water.	(4 marks)
		iëtyn	
		e contraction of the contraction	
		choo ser.	
16.	Nam	e the bones that articulate to form a ball and socket joint at the hip.	(2 marks)
17.	Expla	ain the role of carbonic anhydrase in red blood cells.	(3 marks)

18.	A tal	ll, light skinned lady with pimples on her face has long hair and limps.	
	(a)	List two features which the lady has that are due to inheritance.	(2 marks
	(b)	Explain why most recessive genes are expressed phenotypically in male humans.	e offspring of (3 marks)
		ote com	
19.	The	diagrams below illustrate some forms of beaks in birds, and the state of the state	
		t Daders with white	
	(a)	Which diagram represents the beak from which the others are likely to h	ave evolved? (1 mark)
	(b)	Explain your answer in (a) above.	(3 marks)

20.	(a)	Define the term analogous structures.	(1 mark)
	(b)	Give two illustrations of analogous structures in mammals.	(2 marks)
21.	State	two ways in which plants with weak stems obtain mechanical support.	(2 marks)
		does the term evolution mean? **Two characteristics of hving things illustrated in the photograph below.	
22.	What	does the term evolution mean?	(1 mark)
23.	State	two characteristics of hving things illustrated in the photograph below.	(2 marks)
		tot more tree destructions of the second sec	
24.	Explai	n why a camel has a longer nephron than a whale.	(3 marks)

Kenya Certificate of Secondary Education, 2018 231/1

THE KENYA NATIONAL EXAMINATIONS COUNCIL **Kenya Certificate of Secondary Education**

231/2

BIOLOGY (THEORY)

Paper 2

Nov. 2018 - 2 hours

Name	Index Number
Candidate's Signature	Date

981

Instructions to candidates



- (a) Write your name and index number in the spaces provided above.
- (b) Sign and write the date of examination in the spaces provided above.
- (c) This paper consists of two sections; A and B.
- (d) Answer all the questions in section A in the spaces provided.
- (e) In section B answer question 6 (compulsory) and either question 7 or 8 in the spaces provided after question 8.
- (f) This paper consists of 12 printed pages.
- (g) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing
- (h) Candidates should answer all the questions in English.

For Examiner's Use Only

Section 0	Question	Maximum Score	Candidate's Score
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tor more tree of	3	8	
No.	4	8	
	5	8	
D	6	20	
В		20	
		Total Score	





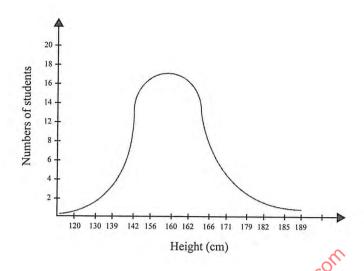
SECTION A (40 marks)

Answer all the questions in this section in the spaces provided.

1. The diagram below illustrates a section of the mammalian kidney.

	Bowman's E capsule F
	Branch of renal artery Name the structures labelled E and F. E
(a)	Name the structures labelled E and F.
	E (1 mark)
	F
(b)	Explain the processes that take place in the regions labelled G and H.
	Explain the processes that take place in the regions labelled G and H. Region G (3 marks)
	more !
	⁶ d.
	Region H (3 marks)

2. Below is a graphical representation of students' height in a classroom.



(a) Name the type of curve illustrated.

(1 mark)

(b) (i) State the type of variation represented by the curve.

(1 mark)

(ii) State **two** meiotic processes that lead to variation among organisms. (

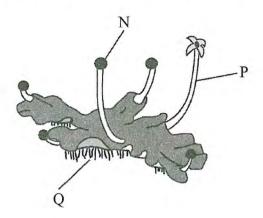
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(iii) Explain the role of variation in organisms. (2 marks)

KO_S

(c) Explain the need for genetic counselling in present day health facilities. (2 mark)

5. The photograph below represents a plant in a certain Division.



(a)	(1)	Name the Division to which the plant belongs.	(1 mark)
	(;;)	With reference to the photograph, state three observable features of	Etha Division
	(ii)	named in a(i) above.	(3 marks)
		"inserior	
		ist www.	
(b)	Nam	e the parts labelled Nand P.	
	N		(1 mark)
	P	Klos A	(1 mark)
(c)	Expl	ain how the part labelled Q is adapted to its functions.	(2 marks)

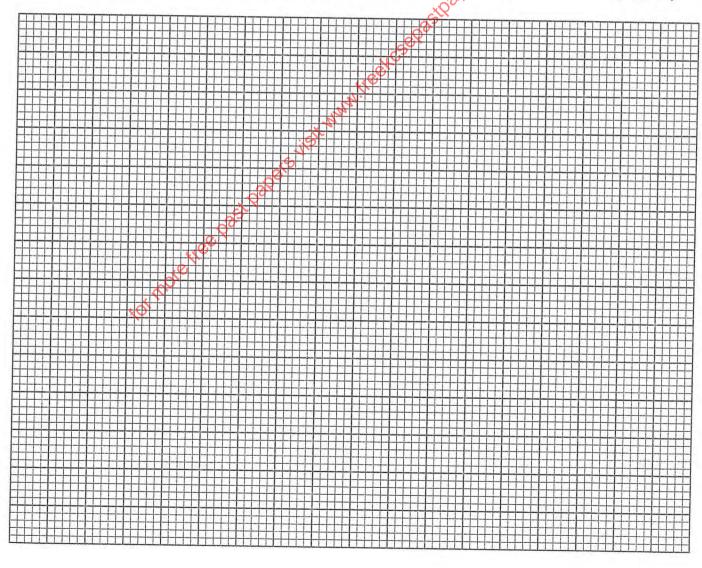
SECTION B (40 marks)

Answer question 6 (compulsory) and either question 7 or 8 in the spaces provided after question 8.

6. The effect of auxin concentration on growth response of two parts of a plant, X and Y was investigated over a period of time. The results were tabulated as shown in the table below.

Concentration of Auxin (in parts per million)	10-6	10-5	10-4	10-3	10-2	10-1	1	101	10 ²
Percentage inhibition /stimulation on part X	0	40	55	40	0	-45	-90	0	0
Percentage inhibition /stimulation on part Y	0	0	0	25	65	155	210	125	-25

(a) On the same axis, draw line graphs of the effect on growth of the two parts, X and Y (percentage inhibition or stimulation) against the concentration. (8 marks)



(b)	With reasons, name the two parts of the plant, X and Y.	
	X	(1 mark)
	Reason	(1 mark)
	Υ	(1 mark)
	Reason	(1 mark)
(c)	From the graph identify:	
	(i) the point at which the percentage stimulation was the same for both X a	(1 mark)
	ests, contraction of the second of the secon	
	(ii) the optimum concentration of auxins required for part Y	(1 mark)
(d)	State three ways in which the effects of auxins on plants is applied in flower fa	(3 marks)
	JE N	
	A Odd S	
	Das	
(e)	Distinguish between simple and conditioned reflex action	(3 marks)
	KOL WILL	
(a)	Describe the mode of reproduction in a named fungus.	(5 marks)
(b)	Describe the role of hormones in the human menstrual cycle.	15 marks)

7.

Describe what happens to a meal rich in proteins along the alimentary canal from ingestion to egestion. (20 marks)
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# THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

# 565/1 - BUSINESS STUDIES - Paper 1

## Nov. 2018 - 2 hours

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1.	Outl	line <b>four</b> features of labour as a factor of production. (4 n	narks)
	(a)		
	(b)		
	(c)		
	(d)	······································	
		Stories Contraction of the Contr	
2.	Outli deve	ine <b>four</b> ways in which peace within a country may encourage entrepreneurial elopment.  (4 m	narks)
	(a)	WANN LLO	
		- Neste -	
	(b)	Ostolis	
	(c)	10 Mes	
		kol (ko)	
	(d)		
3.	State	e four duties of the office clerk. (4 m	arks)
	(a)		
	(b)		
	(c)		
	(d)		

4. The document shown below is used in home trade.

BAB	U TRADERS LTD			
To:	Wakesho Ltd			No. 25
	PO Box 88			Date: 25/10/16
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	We have credited your account as follows:			
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5.	State	four measures that may be taken by the government to control inflation.	(4 marks)
	(a)		
	(b)		
	(c)		
58	(d)		
		ine four measures that may be taken by the government to ourh unemployment	
6.	Outli	the <b>rout</b> measures that may be taken by the government to curb unemployment.	(4 marks)
	(a)	VC2500 S25.	
	(b)	ik nun ite eke se basik.	
	(c)	Y Oslore	
0243	(d)	a troe Pas	
7.	High	lightfour benefits of national income statistics to the government.	(4 marks)
	(a)		
	(b)		
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	\-/		
	(d)		
		Varya Cartificate of Secondary Education 2018	

Business	Assets (Sh)	Capital (Sh)	Liabilities (Sh)
A	40,000	_	15,734
В	_	158,300	61,500
С	17,670	5,680	_
D	67,000	_	24,705

9.	Stat	e <b>four</b> categories in which the various types of business partners may be classified. (4 marks
	(a)	
		and the second s
	(b)	- OR
	(c)	Mark The Committee of t
	(1)	SVENT
	(d)	
10.	High of bu	light <b>four</b> ways in which the government creates an enabling environment for the conduct siness in the country. (4 marks)
	(a)	isiness in the country. (4 marks)
	(b)	
	(c)	
	(d)	

11.	Outl	ine four roles of transport in the facilitation of trade.	(4 marks)
	(a)		
	(b)		
	(c)		
	(d)		
		three sinesymptomess and on which firms around fortile contail	
12.	State	three circumstances under which firms would form a cartel.	(3 marks)
	(a)	gel ^{QQ}	
	(4)	"estC	
	4.5	Wh.	
	(b)	isitu	
		- Oalers V	•••••
	(c)		
13.	Outli	ine <b>four co</b> nditions under which a manufacturer would distribute his pro	ducts through the
13.	whol	esaler.	(4 marks)
	(a)		
	(b)		
	(c)		
	(d)		

14.	State	e four reasons for maintaining a cash book in a business enterprise.	(4 marks)
	(a)		
	(b)		
	(c)		
	(d)		
15.	Apai may	rt from the forces of demand and supply, list <b>four</b> other ways in which the be set.	price of a product (4 marks)
	(a)		
	(b)	Castly algers colf.	
	(c)		
	(d)	ine four factors that would make two people taking the same type of life as	
16.	Outli with	ne <b>four</b> factors that would make two people taking the same type of life as the same insurer to pay different amounts of premium.	ssurance policy (4 marks)
	(a)	als isit	
		EX QUEST	
	(b)	16 16 8 20 20 20 20 20 20 20 20 20 20 20 20 20	
	(c)	to Work to	
	(d)		

17.	State the line of communication involved in each of the following: (4 marks)			
	(a)	The Manager of ABC Company Ltd talking to the Manager of XYZ Company Ltd.		
	(b)	A secretary asking for time off from her boss.		
	(c)	The Production Manager giving instructions to the Secretary of the Sales Manager.		
	(0)	International framework and the second of th		
24	(d)	The Store Keeper giving explanations to the Chief Accountant.		
10	¥7	and the second s		
18.	List	four books of original entry that may be used to record transactions affecting stock.  (4 marks)		
	(a)	an itogh		
	(b)			
	(c)	is is it is		
	(d)			
19.	High	light <b>four</b> external economies of scale that a firm may get when operating on a large scale.  (4 marks)		
	(a)	(4 marks)		
	(b)			
	(c)			
	(d)			

20. The following information was extracted from the books of Leila Traders on 31st July 2016:

Details	Sh
Capital	90,000
Fixed Assets	80,000
Cash in hand	20,000
Current liabilities	20,000
Stock	20,000
Net profit	15,000
Drawings	5,000

Calculate:

(a)	Capital owned	(2 marks)
		<u>or</u>
		els.
		estpate
	N CSE	pastratoris.com
(b)	Acid test ratio	(2 marks)
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21. Watamu Enterprises had the following assets and liabilities on 1st May 2014:

<b>Particulars</b>	Sh
Equipment	800,000
Capital	1,200,000
Creditors	100,000
Debtors	200,000
Stock	250,000
Cash at bank	50,000

The following transactions took place on 2nd May 2014:

- (i) Bought goods for re-sale Sh 150,000 on credit
- (ii) A debtor paid Sh 100,000 by cheque
- (iii) Sold the equipment for Sh 900,000 cash

Required: Prepare Watamu Enterpris	ses balance sheet after the above transactions.	(5 marks)
	ses balance sheet after the above transactions.	
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ager's		
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22.	Outl	line four merits of indirect taxes.	(4 marks)
	(a)		
	(b)		
	(c)		
	(d)		
		agers on	
23.	High	hlight <b>four</b> ways in which the technological environment may improve	ve business
	perfo	formance.	(4 marks)
	(a)	hlight <b>four</b> ways in which the technological environment may improve	
		nan,	
	(b)	s isit	
	(c)	opet pagers with	
	(d)	to to to the second sec	

24. Identify the types of ledger in which each of the following accounts would be found: (4 marks)

	Account	Type of ledger
a	Otieno (buyer)	
b	Carriage outwards	
С	Mueni (supplier)	
d	Cash at bank	

25.	Highlight four ways in which the introduction of money helped eliminate problems	faced in
	barter trade.	(4 marks

(a)	
	con the second s
(b)	oers.
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(c)	N'HOOK
(d)	i sit was

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0243

# THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

### 443/1 -

### **AGRICULTURE**

- Paper 1

### Nov. 2018 - 2 hours

Name	Index Number
Candidate's Signature	Date

#### Instructions to candidates



- (a) Write your name and index number in the spaces provided above.
- (b) Sign and write the date of examination in the spaces provided above
- (c) This paper consists of three sections; A, B and C.
- (d) Answer all the questions in section A and B.
- (e) Answer any two questions in section C.
- (f) All answers should be written in the spaces provided.
- (g) This paper consists of 16 printed pages.
- (h) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing,
- (i) Candidates should answer all the questions in English.

### For Examiner's Use Only

Section	Question	Maximum Score	Candidate's Score	
A	1–14	30		
В	15–18	20		
0		20		
С		20		
Total Score		90		



A

### SECTION A (30 marks)

Answer all the questions in this section in the spaces provided.

	1.	Name four categories of livestock farming.	(2 marks)
10	2.	State <b>four</b> farming practices that ensure minimum tillage.	(2 marks)
055		Market S.	
		ي من المناسبة المناسب	
		* Kok	
		State four factors that determine the shains of water wines and on the fac-	
	3.	State four factors that determine the choice of water pipes used on the farm.	(2 marks)
		asi yax	······································
		Wee Orget	
A190		Ed Kol	
	4.	Name <b>two</b> sources of underground water.	(1 mark)
			(Timeric)



	5.	Give	e four reasons why green manure is not commonly used in farming.	(2 marks)
		······		
	6.	(a)	Name <b>two</b> types of inventory records kept on the farm.	(1 mark)
55			<u>~</u>	
055		(b)	State <b>two</b> uses of inventory records on a farm.	(1 mark)
			Week.	
	7.	(a)	Name three vegetative planting materials used for propagating pineapples.	(1½ marks)
			JE V	
			ON PERSON NAMED IN COLUMN TO THE PER	
		(b)	State three qualities of certified seeds.	(1½ marks)
A190		(0)	State three qualities of certified seeds.	
			tot the	

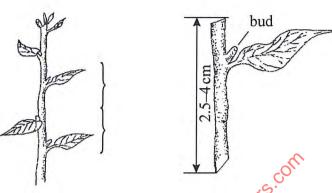
	8.	Stat	e four advantages of using polythene sleeves to propagate stem cuttings.	(2 marks)
	9.	State	e <b>four</b> disadvantages of concession land tenure system.	(2 marks)
055		••••	is. Off	
	10.	Nam	ne four insect pests of beans in the field.	(2 marks)
			Manife	
			is it is	
			a Past.	
A190	11.	(a)	Name three legume pastures grown in high altitude areas.	(1½ marks)
			kol (grander)	
		(b)	State <b>four</b> management practices undertaken to improve natural pastures.	(2 marks)

	12.	(a)	Name two subsidiary books of the journal.	(1 mark)
		(b)	State <b>four</b> item details contained in a sales receipt.	(2 marks)
			S	ÇO.
055	13.	State	e four roles of Young Farmers Clubs in Kenya.	(2 marks)
			C.S.	
			iejt van Heeko	
			isit ve	
			What is meant by the term agroforestry?	w/b
1	14.	(a)	Own	(½ mark)
A190			to we have	
		(b)	Name two agroforestry practices.	(1 mark)
A190		(b)		(1 m

### SECTION B (20 marks)

Answer all the questions in this section in the spaces provided.

15. The diagram below shows a section of a plant from which the planting material illustrated was obtained.

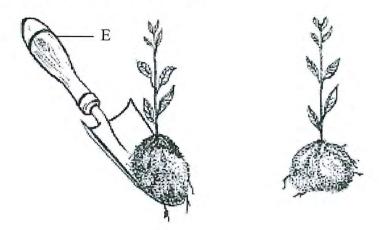


(a)	Identify the planting material illustrated.	(1 mark)
(b)	Give <b>two</b> reasons why only the middle part of the plant was used to part and the plant was used to part of the part of	prepare the planting (2 marks)
(c)	Apart from using the middle part of the plant, explain <b>two</b> precaution observed when preparing the illustrated planting material.	ns that should be (2 marks)
	observed whethereparing the mustrated planting material.	(2 marks)



10.	All Cape	21 11111	chi was carried out to investigate son constituents as de	escribed below.
	Step I	-	An empty evaporating dish was weighed and its mass	was 10 gms.
	Step II	-	Fresh garden soil was put on the evaporating dish and 40 gms.	weighed. The mass was
	Step III	=	The evaporating dish containing fresh soil was put in temperature of 105 °C for 30 minutes, cooled and the 35 gms.	an oven and heated at a n weighed. The mass was
	Step IV	-	The dish containing soil was then strongly heated on a hours while stirring. It was then cooled and weighed.	
	(a) (	ive	a reason why the soil was heated	
955	(	i)	at 105°C	(1 mark)
0	(	ii)	a reason why the soil was heated  at 105 °C  strongly for two hours	(1 mark)
	(b) C	Calcu	alate the percentage content of the soil constituents involved to the soil constituents in the soil constituents involved to the soil constituents in the	(3 marks)
000			kol Wolfe	
	**			
Nowed r			V 0 10 20	
			Kenya Certificate of Secondary Education, 201	8

17. The diagram below illustrates a nursery practice.



055	(a)	Name the practice	(1 mark)
	(b)	Give a reason why the tool labelled E is important in the practice illustrated.	(1 mark)
	(c)	What is the appropriate stage of growth for carrying out the illustrated practic agroforestry?	e in
		agroforestry?	(1 mark)
A190	(d)	Explain two activities that ensure that the illustrated practice is carried out successfully.	(2 marks)



DAP fertiliser input in 50 kg bags	Maize yield in 90 kg bags	Total revenue KSh	Total cost KSh	Marginal revenue KSh	Marginal cost KSh
0	15.0	45 000	0	0	0
1	35.6				
2	52.0				
3	68.5			stpapers.com	
4	71.0			"Oalers	
5	71.5		_{ce} Ro		
6	71.5		resta		
7	68.5	him	<i>`</i> `		

(a)	Complete the table by determining the values of total revenue,	total cost, marginal
	revenue and marginal cost	(2 marks)

(b)	From the information in your table, how can the farmer determine the	e level of
	production at which profit is maximum?	(1 mark)
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At the production level that yielded maximum profit, what was the value of each of the (c) following?

(ii)	Marginal revenue	(1 mark)

055

(i)

DAP fertiliser input

(1 mark)

## SECTION C (40 marks)

Answer any two questions from this section in the spaces provided after question 21.

	19.	(a)	Explain six farming practices that destroy soil structure.	(6 marks)
		(b)	(i) State <b>four</b> functions of calcium in plant growth.	(4 marks)
			(ii) State <b>four</b> disadvantages of using inorganic fertilisers in crop pr	oduction. (4 marks)
		(c)	Describe six categories of pesticides based on mode of action.	(6 marks)
	20.	(a)	Explain six cultural methods of soil and water conservation.	(6 marks)
055		(b)	Explain <b>four</b> environmental factors that influence effectiveness of herbi	icides. (8 marks)
		(c)	Describe six post-harvest practices for dry beans.	(6 marks)
	21.	(a)	(i) Describe the harvesting and marketing of bulb onions.	(6 marks)
			(ii) State the precautions that should be observed when harvesting c	otton. (4 marks)
		(b)	Explain five problems associated with agricultural credit.	(5 marks)
		(c)	Explain <b>five</b> principles that govern the formation and functioning of far co-operatives	mer's (5 marks)
A190			for the state of t	



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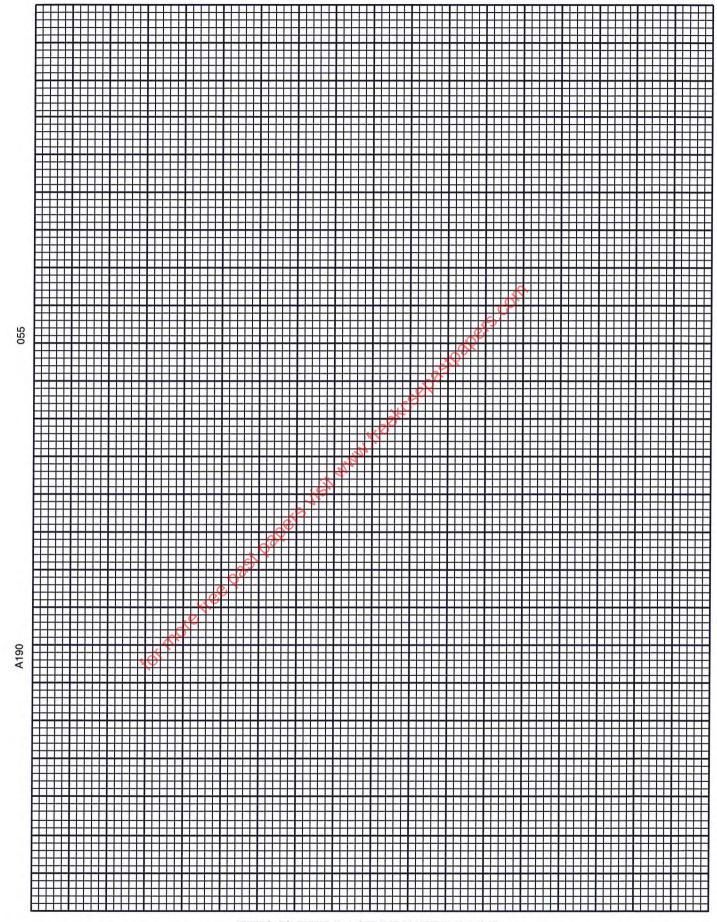


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THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

102/3 -

KISWAHILI FASIHI

Karatasi ya 3

Nov. 2018 - Muda: Saa 21/2

Jina	Nambari ya Mtahiniwa
Sahihi	Tarehe

Maagizo



- (a) Andika jina lako na nambari yako ya mtihani katika nafasi ulizoachiwa hapo juu.
- (b) Tia sahihi yako kisha uandike tarehe ya mtihani katika nafasi ulizoachiwa hapo juu.
- (c) Jibu maswali manne pekee.
- (d) Swali la kwanza ni la lazima.
- (e) Maswali hayo mengine matatu yachaguliwe kutoka sehemu hije zilizobaki; yaani: Riwaya, Tamthilia, Hadithi Fupi na Fasihi Simulizi.
- (f) Usijibu maswali mawili kutoka sehemu moja.
- (g) Majibu yote lazima yaandikwe kwa lugha ya Kiswahili.
- (h) Majibu yote sharti yaandikwe kwenye nafasi ulizoachiwa katika kijitabu hiki cha maswali.
- (i) Karatasi hii ina kurasa 24 zilizopigwa chapa.
- (j) Watahiniwa ni lazima wahakikishe kwamba kurasa zote za karatasi hii zimepigwa chapa sawasawa na kuwa maswali yote yamo.

Kwa Matumizi ya Mtahini Pekee

Swali	Upeo	Alama
1	20	
	20	
	20	
	20	
	Jumla	



SEHEMUA: USHAIRI

1. Lazima

A. Mazrui: Chembe Cha Moyo Soma shairi lifuatalo kisha ujibu maswali.

Nimeyaandika maneno haya Kwa niaba ya: Mamilioni wasio malazi wabebao vifurushi vilivyo wazi wazungukao barabarani bila mavazi ...milki yao ya maisha.

Kwa niaba ya: Maelfu wanouawa bila haki wiki baada ya wiki leo sumu au spaki leo kamba au bunduki

na kwa wale wanosubiri kunyongwa.

Papers visit www.freekcsepastpapers.com Kwa niaba ya: Vijana walio mitaani wale mayatima wa maskini wazungukao mapipani kila pembe mjini kuokota sumu kutia tumboni kujiua bila kujua ili kupata kuishi.

Kwa niaba ya: Wakongwe wasiojiweza walao chakula kilichooza wachukuao choo wakijipakaza polepole wakijiangamiza katika vyumba vyao baridi na giza kwa sababu hawana watazama wala wauguza.

Kwa niaba ya: Waishi na nyingi hofu kwa sababu ya madawa tifutifu yatiwayo vyakulani yakitufanya wafu bila ya mtu kuona kama kwanba sote tu vipofu,

Na kwa niaba yetu sote;

Tuliofungwa vifungoni, duniani
Tuliosukumwa kingoni, maishani
Tuliopokonywa maoni, machoni
Tuliotiliwa sumu, malishoni
Tuliodidimizwa kinyesini
ili 'maendeleo'
yaendelee kwenda niiani

yaendelee kwenda njiani huku yakitema machicha ya roho zetu.

- (a) "Shairi hili linakatisha tamaa." Thibitisha kauli hii kwa kutoa mifano **saba** kutoka kwenye shairi. (alama 7)
- (b) Fafanua umuhimu wa aina **mbili** za urudiaji zilizotumiwa katika shairi hili. (alama 4)
- (c) Bainisha vipengele vifuatavyo vya kimtindo katika shairi hilio (alama 3)
 - (i) tasfida
 - (ii) kinaya
 - (iii) tashihisi
- (d) Eleza kwa kutoa mfano, mbinu **moja** ambayo mshairi ametumia kutosheleza mahitaji ya kiarudhi katika ubeti wa **tano.** (alama 2)
- (e) Andika ubeti wa pili kwa lughawa nathari.

(alama 2)

(f) Bainisha nafsineni katika shairi hili.

(alama 2)

SEHEMU B: RIWAYA

K. Walibora: Kidagaa Kimemwozea

Jibu swali la 2 au la 3.

- 2. "Riwaya hii ya aina yake inathibitisha kwa usanii wa kupigiwa mfano jinsi ndoto ya uhuru barani Afrika imegeuka kuwa jinamizi."
 - (a) Eleza muktadha wa dondoo hili.

(alama 4)

- (b) Onyesha jinsi ndoto ya uhuru barani Afrika imegeuka kuwa jinamizi kwa kuwarejelea wahusika wafuatao:
 - (i) Majisifu

(alama 8)

(ii) Fao

(alama 4)

(iii) Wahudumu katika zahanati ya Nasaba Bora

(alama 4)

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3. (a) "Leo usukani uko mikononi mwetu wenyewe. Mbeberu amekwisha ng'olewa pamoja na mizizi yake."

Onyesha kinaya katika kauli hii kwa kutoa mifano **kumi** kutoka *Kidagaa Kimemwozea*. (alama 10)

(b) Tathmini mchango wa wanyonge katika kuzoroteka kwa hali ya maisha yao. (alama 10)

SEHEMU C: TAMTHILIA

P. Kea: Kigogo

Jibu swali la 4 au la 5.

- 4. Tusiwaruhusu watu wachache waliojazwa kasumba za kikoloni kuturejesha kwenye utumwa. Hatuwezi kukubali kutawaliwa kidhalimu tena!"
 - (a) Eleza muktadha wa dondoo hili.

(alama 4)

- (b) Fafanua kinyume kinachojitokeza katika kauli iliyopigiwa mstari kwa kurejelea hoja kumi na sita kutoka kwenye tamthilia hii. (alama 16)
- 5. "Si haki! Unayazika matumaini yetu. Unaifukia kesho yetu."
 - (a) Fafanua umuhimu wa mzungumzaji wa maneno haya katika kuijenga tamthilia ya Kigogo. (alama 6)
 - (b) Kwa kurejelea hoja **kumi na nne** kutoka kwenye tamthilia, jadili namna uongozi wa Sagamoyo unavyoyazika matumaini ya raia. (alama 14)

SEHEMU D: HADITHI FUPI

A. Chokocho na D. Kayanda: Tumbo Lisiloshiba na Hadhithi Nyingine

Jibu swali la 6 au la 7.

Said A. Mohamed: "Tumbo Lisiloshiba"

- 6. "...lakini hakuiruhusu sahau iketi na kutawala kichwani mwake...hapoi...Angepoaje na ule moto unaomlipukia kila mtu pale mtaani, umeacha mpaka sasa kovu bichi moyoni mwa kila mtu...?"
 - (a) Eleza muktadha wa dondoo hili.

(alama 4)

(b) Bainisha tamathali **tatu** za usemi ambazo zimetumiwa katika kauli hii.

(alama 3)

(c) Fafanua sifa tano za mhusika anayerejelewa na kauli hii.

(alama 5)

(d) Huku ukijadili hoja **nane**, onyesha jinsi wakazi wa Madongoporomoka walivyolipukiwa na moto.

(alama 8)

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- Onyesha jinsi maudhui ya utabaka yalivyoshughulikiwa katika Tumbo Lisiloshiba na Hadithi 7. Nyingine kwa kurejelea hadithi zifuatazo:
 - (a) Mkubwa

(alama 12)

(b) Kidege

(alama 8)

SEHEMU E: FASIHI SIMULIZI

8. Soma utungo ufuatao kisha ujibu maswali. (a)

> Nalilitizama jua la kinjano Likijikokota kwa jitimai kutua Mbele ya nguu ya mlima uso kikomo likipisha machweo yenye giza la kaniki Likishindilia uzito wa nanga kwenye moyo tepetevu uloonja shubiri ya kwondokewa.

outunitieekesepastpapers.com Twalitazamana na hiyo shamsi ikipotelea kwenye upeo wa macho huku nyuma ikinambia "yamekwisha.". Naliona kope zake zikimezwa na kiza Nikaliona jua likitoweka pamwe nawe Jagina wa maisha yangw Nikaliona likikokota aushiyo likabwakura rohow kutoka kwenye vyangu vitanga.

Kumbukizi zilikuleta kwenye jukwaa la akili yangu pazia likafunguka likayaleta mawio ya siku ya kuamkia kuuka kwako. Nalikuona kwenye ruya ukitazamana ana kwa ana na hasidi alokakawana kutuhasiri mi nawe Nalikiona kipaji chako kikitwaa wasiwasi ukawa ni kama wanywea kwa wake mtazamo.

Hata uliponishika
mkono kunambia
tukimbile tujiponye
nalikuwa nimechelewa
ulikuwa keshanipa kisogo, huku
nyuma waniita,
"Mwanangu, njoo tujisalimishe
Mwanangu njoo, nguvu zimenisha."
Kumbe hiyo ilikuwa tahadhari
kwamba Iziraili yu karibu
moyowe kuchukua?
Kumbe wali ukisema, 'Buriani mwanangu?"

Siku ya faradhi ilifika, mkono kulazimika kukupungia
Naliutazama mwilio mtukufu
Nalilitazama tambolo liloumbuka
wali umedhibitiwa shujaa wangu
ndani ya chumba chenye kuta
na paa la mbao.
Hata tulipokukaribisha,
kwa lako kaburi
Nilijipa kujiambia, "Hajenda popote
mtima bado wapiga."
Nalingoja unisalimu
Nalingojea tabasamu lako lenye haya
Ela hayo hayakutimila
Walikuwa kesha kwenda
Kuwa milki, ya ardhi isoshiba.

Hata waliponena 'Udongo kwa udongo,''
Nilikusikia ewe yeli uso kifani
ukighani ubeti wa wimbo
wako pendwa mawazoni mwangu,
"Kifo ni hasidi,
Ikiwa mimi Gunge
Roho yangu nitamkabidhi Iziraili
Mimi niliyekaidi bunduki ya Mzungu
Katika kitali cha miaka minne
Kwetu kukarudi fahari na jina.
Mimi niliyeshindana na ndui na tetekuwanga, iliyowapukutisha
wana wote wa Ngome
Nikabaki mimi, jogoo wa kijiji.

	"Kif	fo ni shujaa,	
		za mimi Gunge mwili wangu huu mtukufu	
	kwa	tambo na nemsi	
		ıkubalia	
		a lengo la dua za kuonewa imani	
		a karamu ya macho ya mahasimu kwa suti na mwosha	
		mikwa kwa udongo uliolaaniwa	
		ni Gunge,	
		uhusu jabali kubwa	
		binye changu kichwa	
		dhibiti changu kidari	
		zibe zangu pumzi	
	Gun	ge niache kutawala."	
	(i)	Huu ni wimbo wa aina gani?	(alama 1)
	(ii)	Andika sababu mbili kuthibitisha jibu lako la a(i).	(alama 1)
	(iii)	Ni nani anayeimbiwa na nafsineni?	(alama 1)
	(iv)	Bainisha matatizo mawili yanayoikumba jamii inayosawiriwa na u	
	(v)	Bainisha mbinu zifuatazo katika wimbo huu.	(alama 2) (alama 3)
		I. ritifaa	
		II. mbinu rejeshi	
		III. taashira	
	(vi)	Unanuia kutumia mbinu ya kutazama na kushiriki kufanya utafiti ku	ıhusu
4.5		nyimbo za aina hii. Eleza sababu sita za kuchagua mbinu hii.	(alama 6)
(b)		nua mikakati sita ambayo jamii inaweza kutumia ili kuudumisha utanz	
		I mare	(alama 6)
		<u>S</u>	
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THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

232/1 -

PHYSICS (THEORY)

Paper 1

Nov. 2018 - 2 hours

Name	Index Number
Candidate's Signature	Date

Instructions to candidates





- (a) Write your name and index number in the spaces provided above.
- (b) Sign and write the date of examination in the spaces provided above.
- (c) This paper consists of two sections A and B.
- (d) Answer all the questions in sections A and B in the spaces provided.
- (e) All working must be clearly shown.
- (f) Silent non-programmable electronic calculators may be used.
- (g) This paper consists of 15 printed pages.
- (h) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- (i) Candidates should answer the questions in English.

For Examiner's Use Only

Section	Questions	Maximum Score	Candidate's Score
KO A	1–13	25	
	14	12	
	15	11	
В	16	9	
	17	11	
	18	12	
	Total Score	80	



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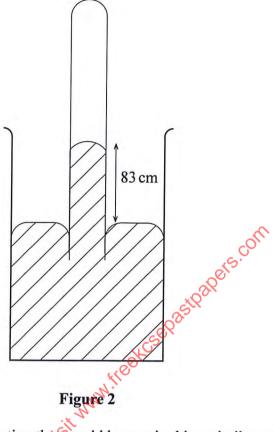
SECTION A: (25 marks)

Answer all the questions in this section in the spaces provided.

	1.	State the reason why an object on earth has a higher weight than on the moon.	(1 mark)
	2.	Figure 1 shows the position of a students eye while measuring the length of a wood using a metre rule.	den block
772			
7		Metre rule — 6 / 7 \ 8	
		Wooden block	
		wifigure 1	
		Determine the length of the block as viewed by the student.	(1 mark)
		Qast Park	
A095		noie	
	3.	Describe how the knowledge of the oil drop experiment may be used to estimate the spillage from a ship in the sea assuming the surface water is not disturbed.	e area of oil (3 marks)



Figure 2 shows an instrument used to measure atmospheric pressure. 4.



State with a reason the modification that would be required in a similar to be replaced with water.	set up if mercury were (2 marks)	
to be replaced with water.	,	
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kol kilo		
It is observed that a drop of milk carefully put into a cup of water turns	s the water white after	
some time. State the reason for this observation.	(1 mark)	

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5.

6. Figure 3 shows the shape of a bimetallic strip after it was cooled below room temperature.

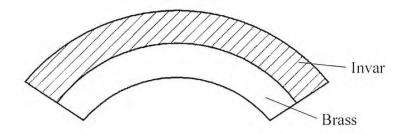


Figure 3

	Explain why the strip curved as shown.	(2 marks)
	*10 ³⁰ 0°s	•
	ucsapas.	
7.	A wooden cube of side 0.5 m floats in water fully submerged. I (density of water = 1 gcm^{-3}).	Determine the weight of the cube. (2 marks)
	oels jish	

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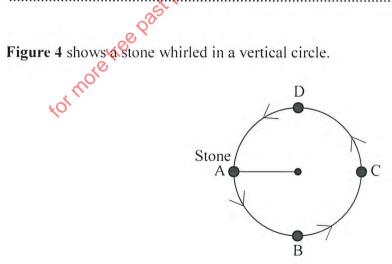
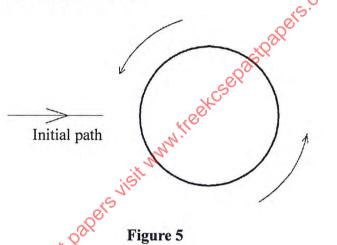


Figure 4

On the axes provided, sketch a graph of tension against time as the stone moves through point A, B, C and D. (3 marks)

Time (s)

9. Figure 5 shows a ball spinning as it moves.



(a) On the diagram, sketch the path followed by the ball as it moves.

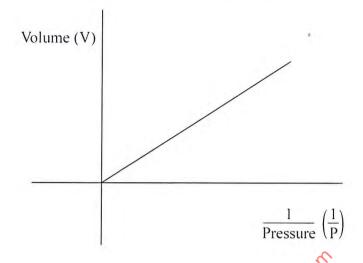
(1 mark)

(b) Explain why the ball takes that path.

(3 marks)

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10. Figure 6 shows the relationship between volume and pressure for a certain gas.



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Figure 6

Name the law that the gas obeys. (1 mark)

11. Figure 7 shows an L-shaped wooden structure.



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Figure 7

On the diagram, construct appropriate lines to show the position of the centre of gravity for the structure. (2 marks)

Figure 8 shows the graph of extension against force for a certain helical spring. 12.

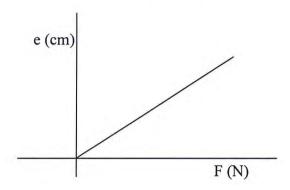


Figure 8

On the same diagram sketch the graph of extension against force for a spring with a lower value of spring constant. (1 mark)

3.	State two ways in which a mercury based thermometer can be modified to read very small temperature changes. (2 m	ark
	" Nata	
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SECTION B (55 marks)

Answer all the questions in this section in the spaces provided.

	14.	(a)	State two differences between boiling and evaporation.	(2 marks)
		(b)	State three ways in which loss of heat by conduction is minimised in a va	acuum flask. (3 marks)
			com	***************************************
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			asil	
		(c)	In a certain experiment, 50 g of dry steam at 10° C was directed into son at 10° C. (Latent heat of vaporisation of water is 1.26×10^{6} Jkg ⁻¹ , latent heat is 1.34×10^{5} Jkg ⁻¹ and specific heat capacity of water is 1.2×10^{6} Determine the;	neat of fusion
			(i) quantity of heat lost by steam to change to water at 100 °C.	(2 marks)
			(ii) quantity of heat lost by water to cool to 0°C.	(2 marks)
A095			tot we	
			(iii) mass of ice melted at 0°C.	(3 marks)



15.	(a)	State Newton's first law of motion.	(1 mark

(b) A wooden block resting on a horizontal bench is given an initial velocity u so that it slides on the bench for a distance x before it stops. Various values of x are measured for different values of the initial velocity. **Figure 9** shows a graph of u² against x.

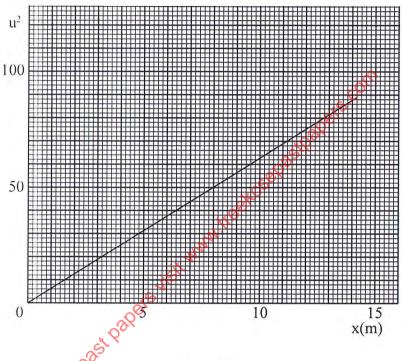


Figure 9

(1)	Determine the slope S of the graph.	(3 marks
\$	<u>(0)</u>	
(ii)	Determine the value of k given that $u^2 = 20$ k d where k is a the surface.	frictional constant for (2 marks)

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	(iii)	State with a reason what happens to the value of k when the roughness of the
		bench surface is reduced. (2 marks
(c)	An o	bject is thrown vertically upwards with an initial velocity of 30 ms ⁻¹ . Determine its mum height (<i>acceleration due to gravity g is 10 ms</i> ⁻²). (3 marks)
		, s
	*******	CS EX CO
		mum height (acceleration due to gravity g is 10 ms ⁻²). (3 marks)
	, or ^c	note free Pe

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16.	(a)	An electric crane	uses 8.0 x10 ⁴ N	of energy to	lift a load of 2.0	0×10^4 N in 4s.
-----	-----	-------------------	-----------------------------	--------------	--------------------	--------------------------

(i)	Determine	the
(1)	Determine	tile.

power developed by the crane,	(2 marks		

П	height to which the load is lifted,	(2 marks)
		(= 11141110)

• • • • • • • • • • • • • • • • • • • •	 	 ••••••	 •

Ш	efficiency of the crane whose motor is rate 2.5×10^4 W.	(2 marks)

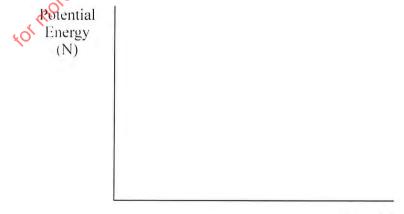
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(ii) State **two** forms of energy transformation that lead to the crane's inefficiency.

(2 marks)

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(5)	
20e,	

(b) A stone is dropped from the top of a building to the ground. On the axes provided, sketch a graph of potential energy against time for the stone. (1 mark)



Time (s)

A095

17.	(a)	State Pascal's principle of transmission of pressure in liquids. (1 mark)
	(b)	Figure 10 shows heights of two immiscible liquids X and Y in a U-tube (drawn to scale).
		h 20 cm
		X h Y COM
		THOSE STATES
		Figure 10
		(i) State with a reason which of the two liquids X and Y has a higher density. (2 marks)
		(2 marks)
		085
		(ii) Determine the value of h . (2 marks)
		More
		Determine the value of \mathbf{h} . (2 marks)

(iii)	Given that the density of liquid Y is ρ , write down an expression for of liquid X in terms of ρ .	the density d (2 marks)
(c) (i)	With the aid of a diagram, describe how a liquid may be siphoned fro container to another using a flexible tube.	om one (3 marks)
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	⁷ / ₀ ,	••••••
(ii)	State one application of the siphon.	(1 mark)

A095

18.	(a)	State two quantities that must be kept constant in order to verify Boyle's law. (2 ma	arks)
			•••••
			•••••
	(b)	An air bubble at the bottom of a beaker full of water becomes larger as it rises to the surface. State the reason why;	
		(i) the bubble rises to the surface, (1 m	nark)
N		(ii) it becomes larger as it rises. (1 m	nark)
		Saste al	
		a de la companya de l	
	(c)	State two assumptions made in explaining the gas laws using the kinetic theory of ga (2 ma	
		es visit	•••••
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(d) **Figure 11** shows an incomplete experimental set up that was prepared by a student to verify one of the gas laws.

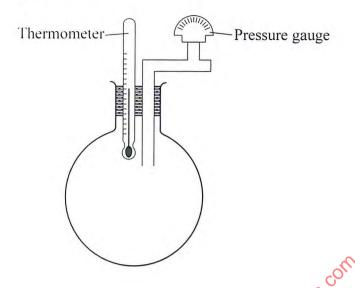


Figure 11

	(i)	State with a reason which one of the laws may be verified using the set	up. (2 marks)
	(ii)	State what the student left out in the diagram of the set up.	(1 mark)
(e)		volume of a fixed mass of a gas reduced from 500 cm ³ to 300 cm ³ at const sure. The initial temperature was 90 K. Determine the final temperature.	ant (3 marks)
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THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

311/1 -

HISTORY AND GOVERNMENT

- Paper 1

Nov. 2018 - 2½ hours

Name	Index Number
Candidate's Signature	Date

Instructions to candidates





- (a) Write your name and index number in the spaces provided above.
- (b) Sign and write the date of examination in the spaces provided above?
- (c) This paper consists of three sections: A, B and C.
- (d) Answer **all** the questions in section **A**, **three** questions from section **B** and **two** questions from section **C**.
- (e) Answers to all the questions must be written in the space provided at the end of question 24.
- (f) This paper consists of 20 printed pages.
- (g) Do not remove any pages from this booklet.
- (h) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- (i) Candidates should answer the questions in English.

For Examiner's Use Only

Section	Question	Maximum Score	Candidate's Score
Α	1 – 17	25	
		15	
В		15	
		15	
0		15	
С		15	
		Total Score	

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SECTION A (25 marks)

Answer all the questions in this section in the space provided at the end of question 24.

1,	Name the last stage in the evolution of man.	(1 mark
2.	Which is the largest linguistic group in Kenya?	(1 mark
3.	Give two sub-groups of the Mjikenda.	(2 marks
4.	Highlight one way of becoming a citizen in Kenya.	(1 marks
5.	Identify two activities that promote national unity in Kenya.	(2 marks
6.	State two natural factors that were responsible for the rise of Nairobi as an urban cer	ntre. (2 marks)
7.	Give two types of constitutions.	(2 marks)
8.	State two types of democracy. is	(2 marks)
9.	Name the leader of the Wanga who collaborated with the British.	(1 mark)
10.	Name two methods which were used by the British to establish their rule in Kenya.	(2 marks)
11.	Name two groups which were involved in the provision of education services in Kenthe colonial period.	ya during (2 marks)
12.	State the importance of Eliud Mathu in the history of Kenya.	(1 mark)
13.	Give two national philosophies in Kenya.	(2 marks)
14.	Who is the administrative head of the Parliamentary Service Commission?	(1 mark)

- 15. Which constitutional amendment reintroduced multiparty democracy in Kenya? (1 mark)
- 16. Identify the political party formed in 1960 to champion the interests of the minority groups in Kenya. (1 mark)
- 17. Name one category of elected members of the National Assembly in Kenya. (1 mark)

SECTION B (45 marks)

Answer any three questions from this section in the space provided at the end of question 24.

- 18. (a) State five reasons that led to the migration of the Luo from their original homeland to the present day Kenya. (5 marks)
 - (b) Describe **five** aspects of the social organisation of the Agikuyu in the 19th century.

 (10 marks)
- 19. (a) Give five reasons that led to the coming of the Arabs to the Kenyan Coast. (5 marks)
 - (b) Explain **five** effects of Christian missionary activities in Kenya. (10 marks)
- 20. (a) Identify five roles of chiefs during the colonial period in Kenya. (5 marks)
 - (b) Explain **five** factors responsible for the Agiryama resistance to the British rule in Kenya. (10 marks)
- 21. (a) Give five political contributions by Ronald Ngala. (5 marks)
 - (b) Discuss five reasons that led to the emergence of independent churches and schools in Kenya during the colonial period. (10 marks)

SECTION C (30 marks)

Answer any two questions from this section in the space provided at the end of question 24.

22.	(a)	Name three categories of members who make up a County Assembly in Ke	
			(3 marks)
	(b)	Explain six functions of returning officers in a general election in Kenya.	(12 marks)
23.	(a)	State three reasons why the independence of the Judiciary is important in K	Cenya. (3 marks)
	(b)	Explain six factors that can interfere with free and fair elections in Kenya.	(12 marks)
24.	(a)	State three roles of the Commission on Revenue Allocation (C.R.A).	(3 marks)
	(b)	Discuss six features of the Constitution of Kenya (2010).	(12 marks)
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Kenya Certificate of Secondary Education, 2018 311/1

THE KENYA NATIONAL EXAMINATIONS COUNCIL **Kenya Certificate of Secondary Education**

233/3

CHEMISTRY (PRACTICAL)

Paper 3

Nov. 2018 - 21/4 hours

Na	me Index Number
Ca	ndidate's Signature Date
Ins	tructions to candidates 2018 2018 2018 2018 2018 2018 2018 2018
(a)	Write your name and index number in the spaces provided above.
(b)	Sign and write the date of examination in the spaces provided above.
(c)	Answer ALL the questions in the spaces provided in the question paper.
(d)	You are NOT allowed to start working with the apparatus for the first 15 minutes of the 2½ hours
	allowed for this paper. This time is to enable you to read the question paper and make sure you have
	all the chemicals and apparatus that you may need 2018 2018 2018 2018 2018
(e)	All working MUST be clearly shown where necessary 2018 2018 2018
(f)	KNEC mathematical tables and silent electronic calculators may be used.
(g)	This paper consists of 8 printed pages. 2
(h)	Candidates should check the question paper to ascertain that all the pages are printed as indicated
	and that no questions are missing 2018 2018 2018 2018 2018 2018 2018 2018
(i)	Candidates should answer the questions in English.
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Question	Maximum Score	Candidate's Score
1	20	
2	11	
3	09	
Total Score	40	



1. You are provided with:

- 0.30 g solid A, magnesium metal
- Hydrochloric acid, solution B
- 0.15 sodium carbonate, solution C
- · Methyl orange indicator

You are required to determine the:

- Enthalpy change, ΔH per mole, of the reaction between magnesium metal and excess hydrocholoric acid.
- Concentration in moles per litre of hydrochloric acid, solution B.

PROCEDURE I

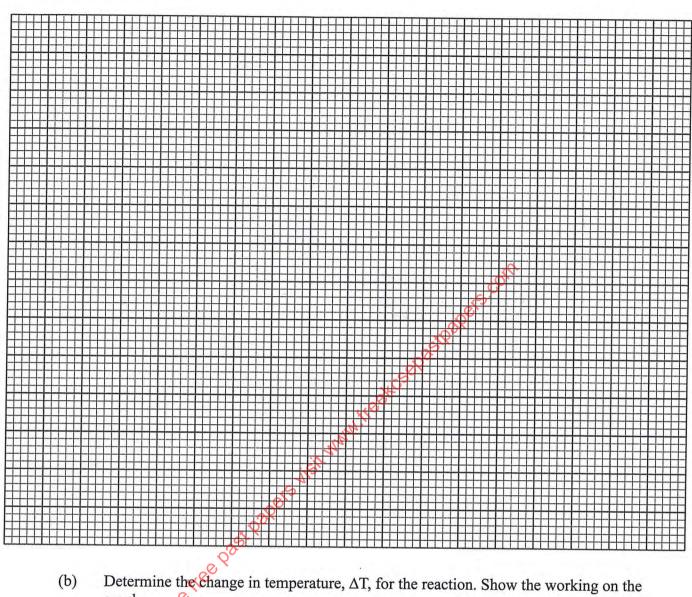
- (i) Using a burette, measure 50.0 cm³ of solution B and place it in a 100 ml plastic beaker.
- (ii) Measure the temperature of **solution B** in the beaker after every 30 seconds and record it in **Table 1**.
- (iii) At the 90th second, add all of the solid A provided into the beaker, stir with the thermometer and continue measuring and recording the temperature after every 30 seconds. Complete Table 1. Retain the mixture in the beaker for use in procedure II.

Table 1

Time (seconds)	0	3000	60	90	120	150	180	210	240	270
Temperature (°C)	oers	7.	,	X						

(3 marks)

(a) Plot a graph of temperature (vertical axis) against time on the grid provided.
(3 marks)



(0)	graph. $\Delta T = \frac{1}{2}$	w the working on the
	ΔT 😝	(1 mark)
(c)	Calculate the heat change, in joules, for the reaction. Assume th	at for the solution,
	specific heat capacity is $4.2 \mathrm{J}\mathrm{g}^{-1}\mathrm{K}^{-1}$ and density is $1.0 \mathrm{g}\mathrm{cm}^{-3}$.	(2 marks)

(d) The relative atomic mass of the reaction per mole of mag	magnesium is 24.0. gnesium. Indicate the	Calculate the entha e sign of ΔH.	lpy change, ΔH, of (1 mark)			
		obers.com				
PROCEDURE II		Jers .				
(i) Fill a clean burette with the	0.15M sodium carb					
(ii) Place all of the mixture in the	Fill a clean burette with the 0.15M sodium carbonate, solution C. Place all of the mixture in the beaker from procedure I into a 250 ml volumetric flask. Add distilled water to the mark and shake thoroughly. Label the mixture as solution D.					
(iii) Using a pipette filler, pipette 2 drops of methyl orange in	e 25.0 cm ³ of solutio	n D into a 250 ml co	onical flask and add			
(iv) Titrate solution D in the con		odium carbonate, so	olution C and record			
the readings in Table 2.	W. W.					
(v) Repeat steps (iii) and (iv) ar	complete Table 2					
Table 2						
Table 2	I	II	III			
Final burette reading						
Initial butette reading		L				
Volume of solution D used (cm ³)	Y					
			(3 marks)			
(a) Determine the average volu	me of the 0.15M soc	lium carbonate, sol t	ition C , used. (1 mark)			

Calc	ulate the number of moles of:	
(i)	sodium carbonate used.	(1 mark)
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
(ii)	hydrochloric acid in the $25.0\mathrm{cm^3}$ of solution D .	(1 mark)
(iii)	hydrochloric acid in the 250 cm ³ of solution D .	(1 mark)
	is what to be a second of the	
	- I W	
	Sets 7.	
(iv)	hydrochloric acid that reacted with magnesium metal.	(1 mark)
\$	O MO	
(v)	total number of moles of hydrochloric acid in the 50.0 cm ³ , so	olution B. (1 mark)
		ý.



(b)

(c)	Determine the concentration of hydrochlori	c acid in moles per litre, in solution B . (1 ma					
	are provided with solid E . Carry out the followences in the spaces provided.	ving tests and record the observations and					
(a)	(a) Place about one-third of solid E in a dry test-tube. Heat the solid strong gas with both blue and red litmus papers.						
	Observations	Inferences					
		Pasil					
	"SEKCS						
	nunt						
	is visit						
	* 695 ₆₇						
	(2 marks)	(1 mark)					
(b)	Place the remaining amount of solid E in a boiling tube. Add about 15 cm ³ of distille water and shake. Divide the mixture into four test tubes each containing about 2 cm ³ (i) To the first portion, add three or four drops of dilute hydrochloric acid.						
	Observations	Inferences					

(ii)	To the second	portion.	add two	or three	drops	of aqueous	barium	nitrate
------	---------------	----------	---------	----------	-------	------------	--------	---------

Observations	Inferences
(½ mark)	(½ mark)

(iii) To the third portion, add aqueous sodium hydroxide dropwise until in excess.

Inferences		
all		

(iv) To the fourth portion, add aqueous ammonia dropwise until in excess.

Observations	Inferences
and file	
nisit w	
(1 mark)	(1 mark)

- 3. You are provided with solid F. Carry out the following tests and record the observations and inferences in the spaces provided.
 - (a) Place about one-third of **solid F** on a **clean** metallic spatula and burn it in a Bunsen burner flame.

Observations	Inferences	
(1 mark)	(1 mark)	

Observations	Inferences
Observations	Interences
(½ mark)	(½ mark)

(i) Using about 2 cm³ of the mixture in a test-tube, determine the pH using universal indicator paper and chart.

pН	Inferences
	alers.
	200 CO
(1 mark)	(1 mark)

(ii) To about 2 cm³ of the mixture in a test tube, add two or three drops of acidified potassium manganate(VII)

Observations	Inferences
2000°	
oat V	
(8 ⁰	
(1 mark)	(1 mark)

(iii) To about 2 cm³ of the mixture in a test-tube add two or three drops of bromine water.

Observations	Inferences

(1 mark)

(1 mark)



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THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

121/2 - MATHEMATICS ALT A - Paper 2

Nov. 2018 - 2½ hours

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SECTION I (50 marks)

Answer all the questions in this section in the spaces provided.

Given that $2 \log x^2 + \log \sqrt{x} = k \log x$, find the value of k. 1.

(2 marks)

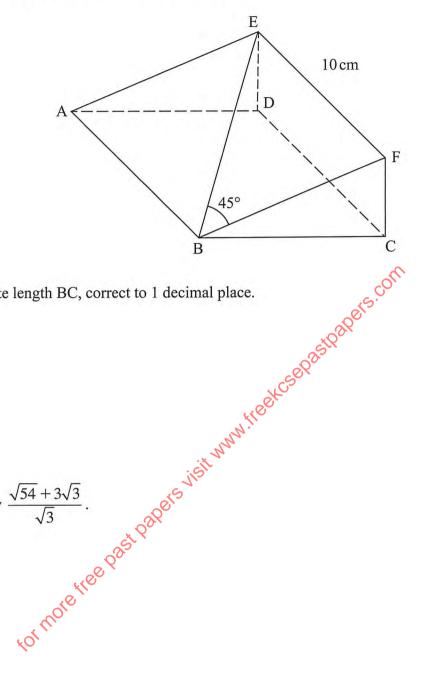
A variable P varies directly as t^3 and inversely as the square root of s. When t = 2 and s = 9, 2. P = 16. Determine the equation connecting P, t and s, hence find P when s = 36 and t = 3.

(4 marks)

isit www.treekcsepastpapere Asia invested some money in a financial institution. The financial institution offered 6% per 3. annum compound interest in the first year and 7% per annum in the second year. At the end of the second year, Asia had Ksh 170130 in the financial institution. Determine the amount of money Asia invested. (3 marks)

Kenya Certificate of Secondary Education, 2018

The figure below represents a wedge ABCDEF. EF = $10\,\mathrm{cm}$, angle FBE = 45° and the angle 4. between the planes ABFE and ABCD is 20°.



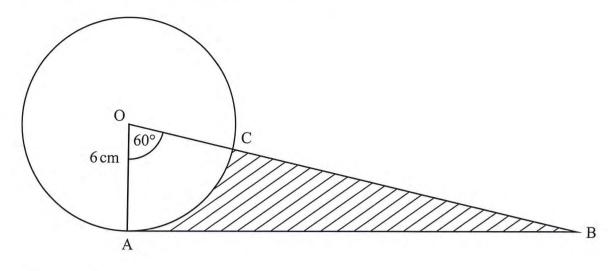
Calculate length BC, correct to 1 decimal place.

(3 marks)

Simplify $\frac{\sqrt{54} + 3\sqrt{3}}{\sqrt{3}}$. 5.

(2 marks)

6. In the figure below, AB is a tangent to the circle, centre O and radius 6 cm. The arc AC subtends an angle of 60° at the centre of the circle.



Calculate the area of the shaded region, correct to 1 decimal place.

(4 marks)

7. Use completing the square method to solve $3x^2 + 8x - 6 = 0$, correct to 3 significant figures.

(3 marks)

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8. Three workers, working 8 hours per day can complete a task in 5 days. Each worker is paid Ksh 40 per hour. Calculate the cost of hiring 5 workers if they work for 6 hours per day to complete the same task.

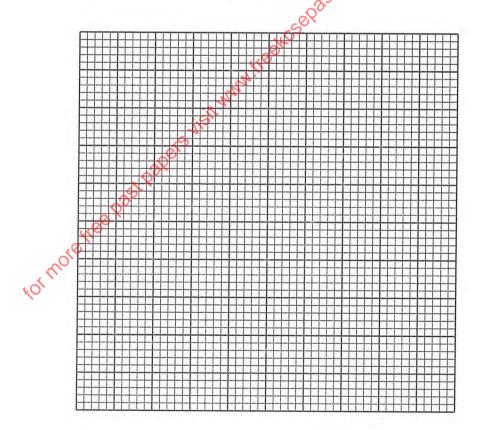
(3 marks)

9. The table below represents a relationship between two variables x and y.

x	1	2	3	4	5	6
y	3.5	4.5	8.0	8.5	e de	13

(a) On the grid provided draw the line of best fit.

(3 marks)



(b) Use the graph to find the value of y when x = 0.

(1 mark)

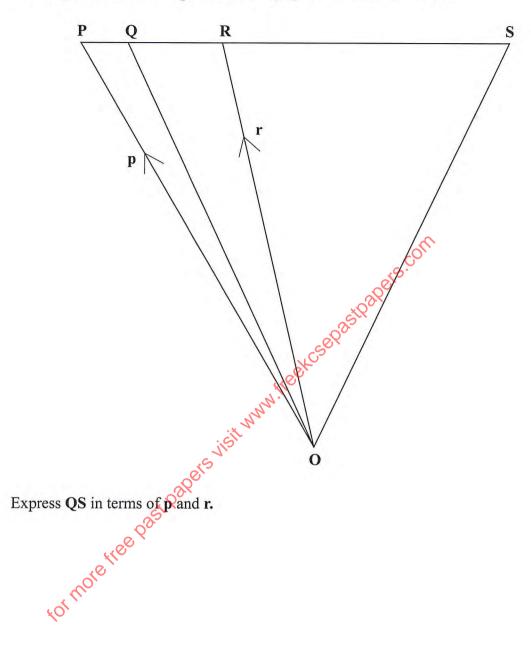
State the amplitude and the phase angle of the curve $y = 2\sin\left(\frac{3}{2}x - 30^{\circ}\right)$. (2 marks) 10.

11. The mass, in kilograms, of 9 sheep in a pen were: 13, 8, 16, 17, 19, 20, 15, 14 and 11. Determine the quartile deviation of the data.

(3 marks)

Past Papers visit www.freekcsepastpapers.com The position of two points C and D on the earth's surface are $(\theta^{\circ}N, 10^{\circ}E)$ and $(\theta^{\circ}N, 30^{\circ}E)$ 12. respectively. The distance between the two points is 600 nm. Determine the latitude on which C and D lie. (3 marks)

In the figure below OP = p, OR = r, PQ:QR = 1:2 and PS = 3PR. 13.



(4 marks)

14. In a certain firm there are 6 men and 4 women employees. Two employees are chosen at random to attend a seminar. Determine the probability that a man and a woman are chosen.

Under a transformation $T = \begin{pmatrix} 4 & -3 \\ 2 & 3 \end{pmatrix}$, triangle OAB is mapped onto triangle OA'B' with vertices O(0,0), A'(18,0) and B'(18 of Find the area of this in C.17

15. vertices O(0,0), A'(18,0) and B'(18,6). Find the area of triangle OAB. (3 marks)

Find the value of k if $\int_0^2 (kx^3 - 3x^2) dx = 16$. 16. (4 marks)

SECTION II (50 marks)

Answer any five questions from this section in the spaces provided.

- 17. The 5th and 10th terms of an arithmetic progression are 18 and -2 respectively.
 - (a) Find the common difference and the first term.

(4 marks)

(b) Determine the least number of terms which must be added together so that the sum of the progression is negative. Hence find the sum. (6 marks)

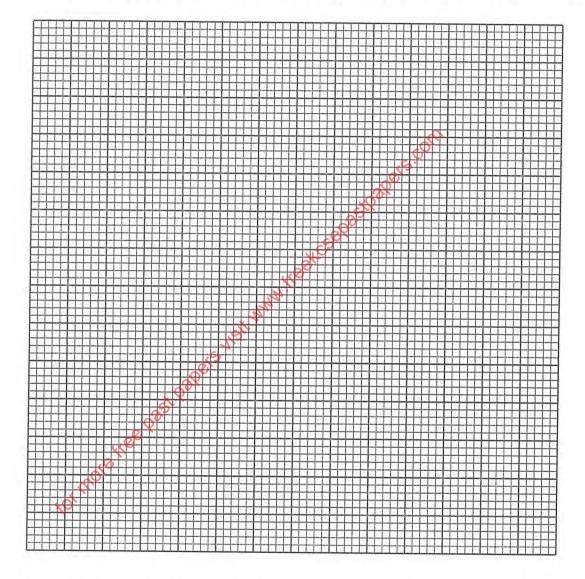
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18. (a) Complete the table below for the equation $y = x^2 - 4x + 2$.

(2 marks)

x	0	1	2	3	4	5
ν						

(b) On the grid provided draw the graph $y = x^2 - 4x + 2$ for $0 \le x \le 5$. Use 2 cm to represent 1 unit on the x-axis and 1 cm to represent 1 unit on the y-axis. (3 marks)



(c) Use the graph to solve the equation, $x^2 - 4x + 2 = 0$

(2 marks)

(d) By drawing a suitable line, use the graph in (b) to solve the equation $x^2 - 5x + 3 = 0$.

(3 marks)

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The table below shows the frequency distribution of heights of 40 plants in a tree nursery. 19. (a)

Heights of plants (cm)	0–10	10–20	20–30	30–40	40–50	50–60
Frequency	4	8	10	12	4	2

(a) State the modal class.

(1 mark)

- (b) Calculate:
 - the mean height of the plants; (i)

(3 marks)

the standard deviation of the distribution.

(ii)

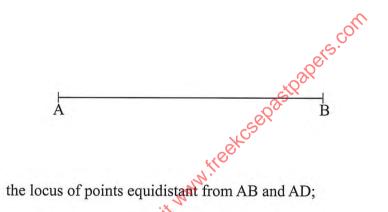
(4 marks)

Determine the probability that a plant taken at random has a height greater than 40 cm. (c)

W. 100

20. (a) Using a ruler and a pair of compasses only, construct:

> (i) a parallelogram ABCD, with line AB below as part of it, such that AD = 7 cm and angle BAD = 60° ; (3 marks)



(ii)

(1 mark)

the perpendicular bisector of BC. (iii)

(1 mark)

(b) Mark the point P that lies on DC and is equidistant from AB and AD. (1 mark)

Measure BP. (ii)

(1 mark)

(c) Describe the locus that the perpendicular bisector of BC represents.

(1 mark)

(d) Calculate the area of trapezium ABCP.

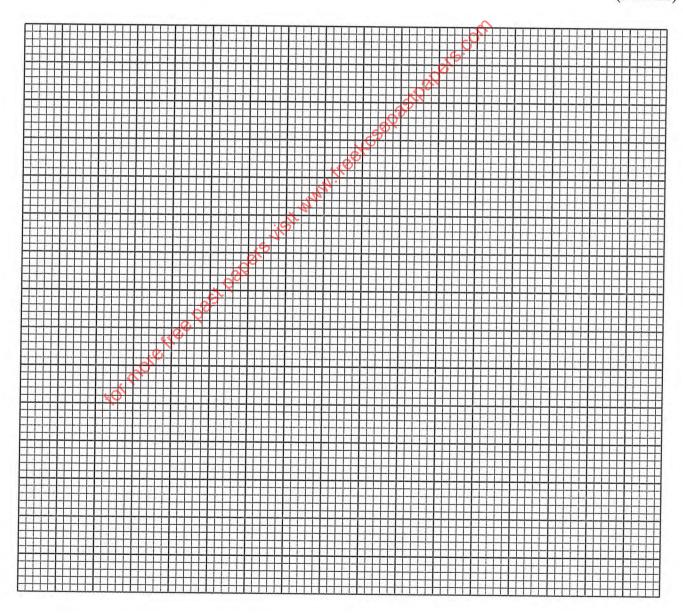
(2 marks)

- 21. The table below shows some values of the curves $y = 2 \cos x$ and $y = 3 \sin x$.
 - (a) Complete the table for values of $y = 2 \cos x$ and $y = 3 \sin x$, correct to 1 decimal place. (2 marks)

x°	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°	360°
$y = 2\cos x$	2		1	0		-1.7		-1.7	-1		1	1.7	2
$y = 3\sin x$	0	1.5		3	2.6		0		-2.6			-1.5	0

(b) On the grid provided, draw the graphs of $y = 2 \cos x$ and $y = 3 \sin x$ for $0^{\circ} \le x \le 360^{\circ}$, on the same axes.

(5 marks)



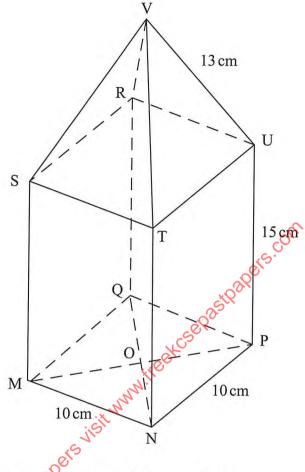
(c) Use the graph to find the values of x when $2 \cos x - 3 \sin x = 0$

(2 marks)

(d) Use the graph to find the values of when $2 \cos x = 3 \sin x$.

(1 marks)

Kenya Certificate of Secondary Education, 2018 121/2 22. The figure below is a model of a watch tower with a square base of side $10 \, \text{cm}$. Height PU is $15 \, \text{cm}$ and slanting edges $UV = TV = SV = RV = 13 \, \text{cm}$.



Giving the answer correct to two decimal places, calculate:

(a) length MP;

(2 marks)

(b) the angle between MU and plane MNPQ;

(2 marks)

(c) Length VO;

(3 marks)

(d) the angle between planes VST and RSTU.

(3 marks)

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23. The table below shows monthly income tax rates for a certain year.

Monthly income (in Ksh)	Tax rate in each shilling
0 – 11 180	10%
11 181 – 21 714	15%
21715 – 32248	20%
32 249 - 42 782	25%
Above 42782	30%

In that year a monthly personal tax relief of Ksh 1280 was allowed. In a certain month of that year, Sila earned a monthly basic salary of Ksh 52000, a house allowance of Ksh 7800 and a commuter allowance of Ksh 5000.

- (a) Calculate:
 - (i)

(2 marks)

the net tax payable by Sila in that month; (ii)

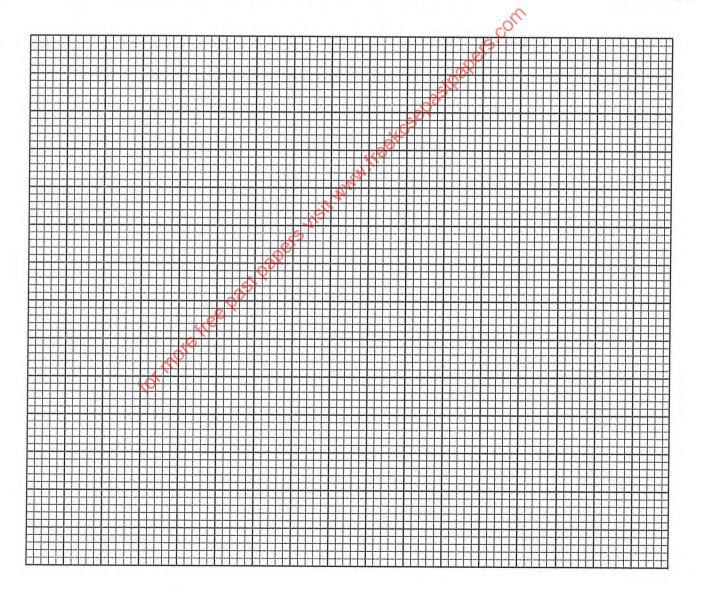
(5 marks)

Silitory Sil In July that year, Sila's basic salary was raised by 4%. Determine Sila's net salary in July. (b) (3 marks)

- A hotel buys beef and mutton daily. The amount of beef bought must be at least 30 kg and that of mutton at least 20 kg. The total mass of beef and mutton bought should not exceed 100 kg. The beef is bought at Ksh 360 per kg and the mutton at Ksh 480 per kg. The amount of money spent on both beef and mutton should not exceed Ksh 43 200 per day. Let x represent the number of kilograms of beef and y the number of kilograms of mutton.
 - (a) Write the inequalities that represent the above information. (3 marks)

(b) On the grid provided, draw the inequalities in (a) above.

(4 marks)



(c) The hotel makes a profit of Ksh 50 on each kg of beef and Ksh 60 on each kg of mutton. Determine the maximum profit the hotel can make. (3 marks)

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		ingaroo rats spend most of their time in underground burrows.	
(a)) Na	ame this type of behavioural activity	(1 m
(b)) Ex	aplain the significance of this behaviour to the organism.	(3 ma
	•••		
	••••		
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121/2 - MATHEMATICS ALT A - Paper 2

Nov. 2018 - 2½ hours

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SECTION I (50 marks)

Answer all the questions in this section in the spaces provided.

Given that $2 \log x^2 + \log \sqrt{x} = k \log x$, find the value of k. 1.

(2 marks)

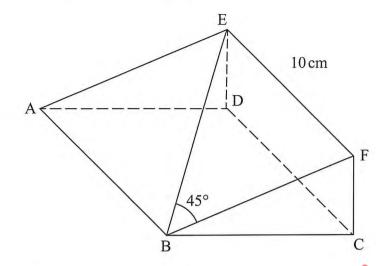
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(4 marks)

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Kenya Certificate of Secondary Education, 2018

The figure below represents a wedge ABCDEF. $EF = 10 \, cm$, angle $FBE = 45^{\circ}$ and the angle 4. between the planes ABFE and ABCD is 20°.



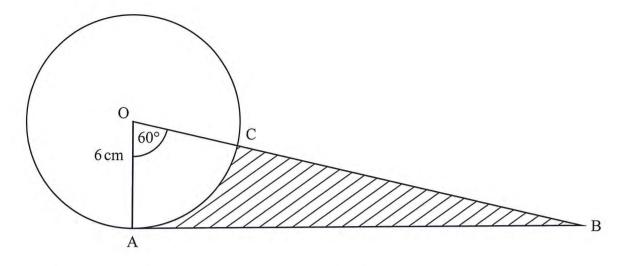
Calculate length BC, correct to 1 decimal place.

(3 marks)

Simplify $\frac{\sqrt{54} + 3\sqrt{3}}{\sqrt{3}}$ 5. (2 marks)

Kenya Certificate of Secondary Education, 2018

6. In the figure below, AB is a tangent to the circle, centre O and radius 6 cm. The arc AC subtends an angle of 60° at the centre of the circle.



Calculate the area of the shaded region, correct to 1 decimal place.

(4 marks)

7. Use completing the square method to solve $3x^2 + 8x - 6 = 0$, correct to 3 significant figures.

(3 marks)

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(4 marks)

kilograms of beef and y the number of kilograms of mutton. on both beef and mutton should not exceed Ksh $43\,200$ per day. Let x represent the number of beef is bought at Ksh 360 per kg and the mutton at Ksh 480 per kg. The amount of money spent mutton at least 20kg. The total mass of beef and mutton bought should not exceed 100kg. The A hotel buys beef and mutton daily. The amount of beef bought must be at least 30 kg and that of

(3 marks) Write the inequalities that represent the above information.

On the grid provided, draw the inequalities in (a) above.

tol more

(q)

The table below shows monthly income tax rates for a certain year.

gnilli	Tax rate in each sh	Monthly income (in Ksh)
•	%0I	08111-0
	%\$ I	11181-21714
	%07	21715-32248
	%\$7	32 249 – 42 782
	%0€	Above 42 782

commuter allowance of Ksh 5000. year, Sila earned a monthly basic salary of Ksh 52000, a house allowance of Ksh 7800 and a In that year a monthly personal tax relief of Ksh 1280 was allowed. In a certain month of that

(i) (a) Calculate:

(2 marks)(11)

the net tax payable by Sila in that month;

the net tax payable by Sila in that month;

(2 marks)

(3 marks) In July that year, Sila's basic salary was raised by 4%. Determine Sila's net salary in July. (q)

23.

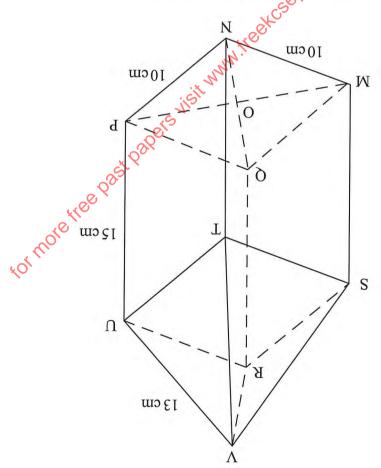
(3 marks)

(c) Length VO;

(3 marks)

(d) the angle between planes VST and RSTU.

For more hee past pages visit www.treekcsepastpagers.com



Giving the answer correct to two decimal places, calculate:

(a) length MP;

(b) Correct to two decimal places, calculate:

(2 marks)

(b) the angle between MU and plane MNPQ;

(2 marks)

(2 marks)

Use the graph to find the values of x when 2 $\cos x - \sin x$ (0)

Use the graph of the values of y when x and y and y and y and y and y and y are y and y and y are y and y are y and y and y are y are y and y are y are y and y are y are y and y are y a

(p)

(1 marks)

Turn over

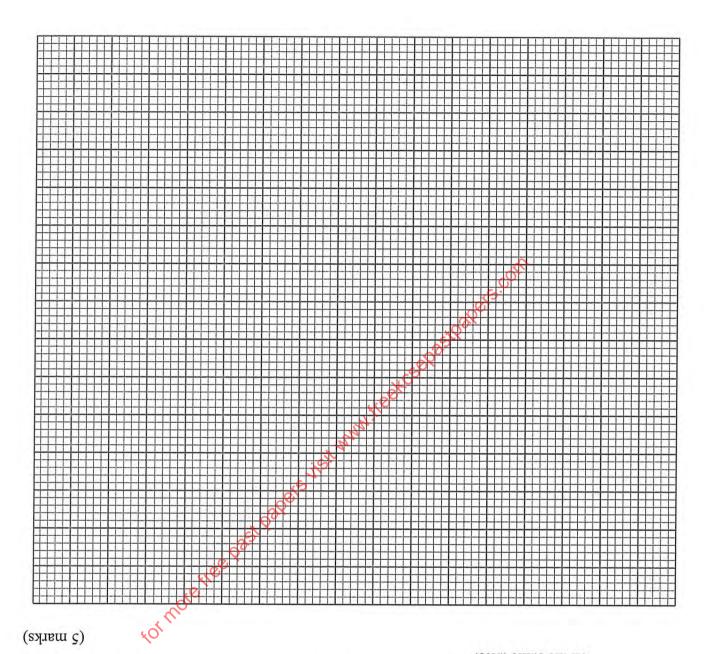
The table below shows some values of the curves $y = 2 \cos x$ and $y = 3 \sin x$.

(2 marks) Complete the table for values of $y = 2 \cos x$ and $y = 3 \sin x$, correct to 1 decimal place.

0	ε.I−			9.2-		0		9.2	3		2.1	0	$x \text{ nis } \xi = \chi$
7	T.I	I		I-	7.I —		7.I-		0	I		7	$x \cos z = x$
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on the same axes. On the grid provided, draw the graphs of $y=2\cos x$ and $y=3\sin x$ for $0^{\circ} \leqslant x \leqslant 360^{\circ}$, (q)

(2 marks)



a parallelogram ABCD, with line AB below as part of it, such that AD $= 7 \, \mathrm{cm}$ and (i) 2 (a) Using a ruler and a pair of compasses only, construct: .02

single BAD = 60° ; (3 marks)

the locus of points equidistant from AB and AD;

e perpendicular basector of BC

(ii) (1 mark)

(iii) (1 mark)

Mark the point P that lies on DC and is equidistant from AB and AD. (i) (q) (1 mark)

(5) (I mark) Describe the locus that the perpendicular bisector of BC represents.

Calculate the area of trapezium ABCP. (p) (2 marks)

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(1 mark)

0414

(ii)

Measure BP.

The table below shows the frequency distribution of heights of 40 plants in a tree nursery. (a) .61

Frequency	t	8	10	12	7	7
Heights of plants (cm)	01-0	10–20	08-02	01∕−0€	05-04	09-05

(1 mark)

State the modal class.

(a)

Calculate: (q)

(3 marks)

the mean height of the plants; (i)

the standard deviation of the distribution.

The standard deviation of the distribution.

(4 marks)

(ii)

(2 marks) Determine the probability that a plant taken at random has a height greater than $40\,\mathrm{cm}$. (c)



(3 marks)

(p)

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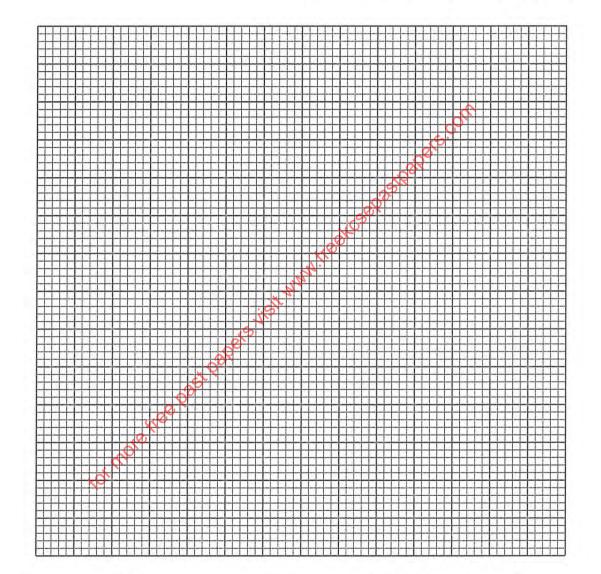
By drawing a suitable line, use the graph in (b) to solve the equation $x^2 - 5x + 3 = 0$.

(2 marks)

Complete the table below for the equation $y = x^2 - 4x + 2$.

						1
ς	Þ	3	7	I	0	x

(b) On the grid provided draw the graph $y = x^2 - 4x + 2$ for $0 \le x \le 5$. Use 2 cm to represent 1 unit on the x-axis and 1 cm to represent 1 unit on the y-axis. (3 marks)



(2 marks)

(c) Use the graph to solve the equation, $\chi^2 - 4x + 2 = 0$

.81

ZECLION II (20 marks)

Answer any five questions from this section in the spaces provided.

The 5th and 10th terms of an arithmetic progression are 18 and -2 respectively.

Find the common difference and the first term.

(a)

.7I

(4 marks)

(b) Determine the least number of terms which must be added together so that the sum of the progression is negative. Hence find the sum. (6 marks)

Kenya Certificate of Secondary Education, 2018
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14. In a certain firm there are 6 men and 4 women employees. Two employees are chosen at random to attend a seminar. Determine the probability that a man and a woman are chosen.

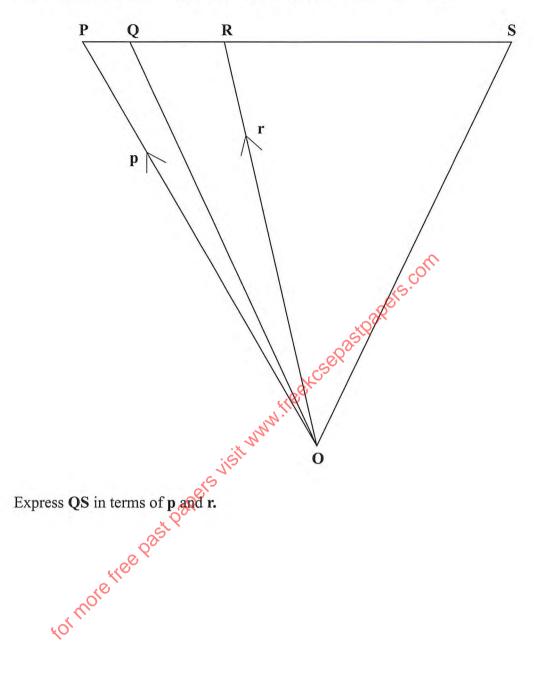
triangle OAB is mapped onto triangle OA'B' with

Under a transformation $\mathbf{T} = \begin{pmatrix} 4 & -3 \\ 2 & 3 \end{pmatrix}$ vertices O(0,0), A'(18,0) and B'(18, 6). Find the area of triangle OAB. (3 marks)

Find the value of k if $\int_0^2 (kx^3 - 3x^2) dx = 16$.

16. (4 marks)

In the figure below OP = p, OR = r, PQ:QR = 1:2 and PS = 3PR. 13.



(4 marks)

State the amplitude and the phase angle of the curve $y = 2\sin\left(\frac{3}{2}x - 30^{\circ}\right)$. (2 marks) 10.

The mass, in kilograms, of 9 sheep in a pen were: 11. 13, 8, 16, 17, 19, 20, 15, 14 and 11. Determine the quartile deviation of the data.

(3 marks)

past papers visit www.freekcsepastpapers.com The position of two points C and D on the earth's surface are (θ°N, 10°E) and (θ°N, 30°E) 12. respectively. The distance between the two points is 600 nm. Determine the latitude on which (3 marks) C and D lie.

8. Three workers, working 8 hours per day can complete a task in 5 days. Each worker is paid Ksh 40 per hour. Calculate the cost of hiring 5 workers if they work for 6 hours per day to complete the same task.

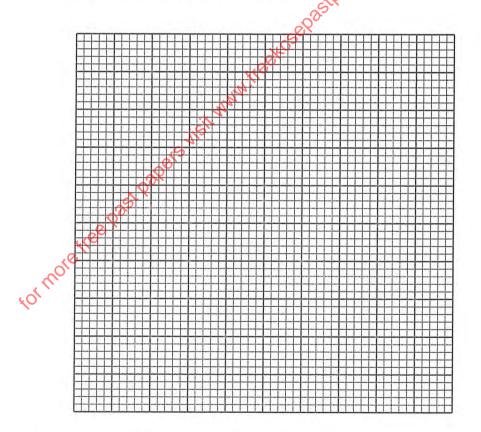
(3 marks)

9. The table below represents a relationship between two variables x and y.

x	1	2	3	4	5	6
у	3.5	4.5	8.0	8.5	'n'	13

(a) On the grid provided draw the line of best fit.

(3 marks)



(b) Use the graph to find the value of y when x = 0.

(1 mark)

THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

312/2 -

GEOGRAPHY

- Paper 2

Nov. 2018 - 23/4 hours

Name	Index Number
Candidate's Signature	Date

Instructions to candidates

- (a) Write your name and index number in the spaces provided above.
- (b) Sign and write the date of examination in the spaces provided above
- (c) This paper has two sections: A and B.
- (d) Answer all the questions in section A in the space provided at the end of question 10.
- (e) Answer question **6** and any other **two** questions from section **B** in the space provided at the end of question **10**.
- (f) This paper consists of 20 printed pages.
- (g) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- (h) Candidates should answer the questions in English.

For Examiner's Use Only

Section	Questions	Maximum Score	Candidate's Score
Alle	1-5	25	
mol	6	25	
В		25	
		25	
	Total Score	100	



SECTION A

Answer all the questions in this section.

1.	(a)	Name two categories of fish.	(2 marks)
	(b)	Identify three methods of fishing that are used for deep sea fishing.	(3 marks)
2.	(a)	Give three tourist attractions found in the lake region of Kenya.	(3 marks)
	(b)	State three reasons why domestic tourism is encouraged in Kenya.	(3 marks)
3.	(a)	Name three places in Kenya where geothermal energy has potential of bein	g harnessed. (3 marks)
	(b)	State three physical factors that have favoured high flydro-Electric Power production in Uganda.	(3 marks)
4.	(a)	Give two trading blocs in Africa.	(2 marks)
	(b)	Identify three political problems facing regional trading blocs in Africa.	(3 marks)
5.	List	three environmental hazards that are caused by human activities.	(3 marks)

Kenya Certificate of Secondary Education, 2018 312/2

SECTION B

Answer question 6 and any other two questions from this section.

6. Study the data provided below and answer the questions that follow.

Value of export earnings of selected crops from Kenya (Ksh millions)

Crop	2012	2013	2014
Tea	101441	104648	93996
Coffee	22271	16328	19913
Sisal	1184	1020	1325
Total	124896	121996	115234

- (a) Using a scale of 1 cm to 50,000 million, draw proportional circles to represent the total export earnings between 2012 and 2014. Use the diameter method. (10 marks)
 - (ii) Calculate the percentage decline in export value between 2012 and 2013. (2 marks)
- (b) (i) What conclusion on value of exports can you make from the proportional circles? (3 marks)
 - (ii) State **four** disadvantages of using proportional circles to represent the export values. (4 marks)
- (c) Explain how international trade in Kenya can be improved. (6 marks)

7. (a) (i) Define the term mining.

(2 marks)

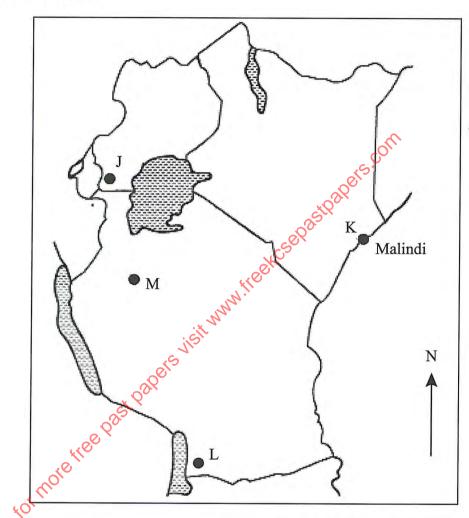
(ii) State four factors that influence the occurrence of minerals.

(4 marks)

(b) Describe the open cast method of mining.

(5 marks)

(c) The map below shows location of minerals in East Africa. Use it to answer question (c) (i).



0380

308

(i) Name the minerals found in areas marked J, K, L and M

(4 marks)

(ii) Describe the processing of Trona in lake Magadi.

(4 marks)

(d) Explain three ways in which mining promotes industrialisation in Kenya.

(6 marks)



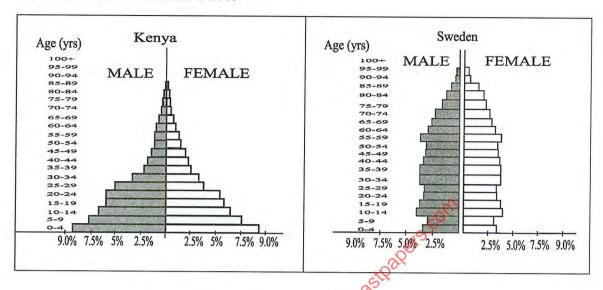
8.	(a)	(i)	What is forestry?	(2 marks)
		(ii)	Apart from tropical hardwood forests, name two other types of natural forest.	(2 marks)
		(iii)	State the problems experienced in exploitation of tropical hardwood forests.	(5 marks)
	(b)	List	the characteristics of planted forests in Kenya.	(5 marks)
	(c)	Expl	ain three factors that favour forestry in Canada.	(6 marks)
	(d)		five measures that the government has taken to conserve and manage ts in Kenya.	(5 marks)
9.	(a)	Expl	ain each of the following methods of land rehabilitation	
		(i)	Mulching	(4 marks)
		(ii)	Mulching Bunds and gabions	(6 marks)
	(b)		three ways in which the government is trying to rehabilitate overgrazed in Kenya.	(3 marks)
	(c)	(i)	Name four types of irrigation practised in Kenya.	(4 marks)
		(ii)	Explain two conditions that favour irrigation farming in Kenya.	(4 marks)
	(d)	Give	the characteristics of land reclamation in Kenya.	(4 marks)

0380



The pyramids below represent the population structure of Kenya and Sweden in the year 2009.Use them to answer question (a).

POPULATION PYRAMIDS 2009



- (a) Describe the characteristics of population of the two countries as represented by the pyramids. (6 marks)
- (b) (i) What is fertility rate?

(2 marks)

- (ii) Explain **three** factors that have contributed to the reduction in fertility rate in Kenya. (6 marks)
- (c) State **three** problems caused by slow population growth rate in developed countries.

 (3 marks)
- (d) Explain four causes of rural-rural migration in Kenya. (8 marks)

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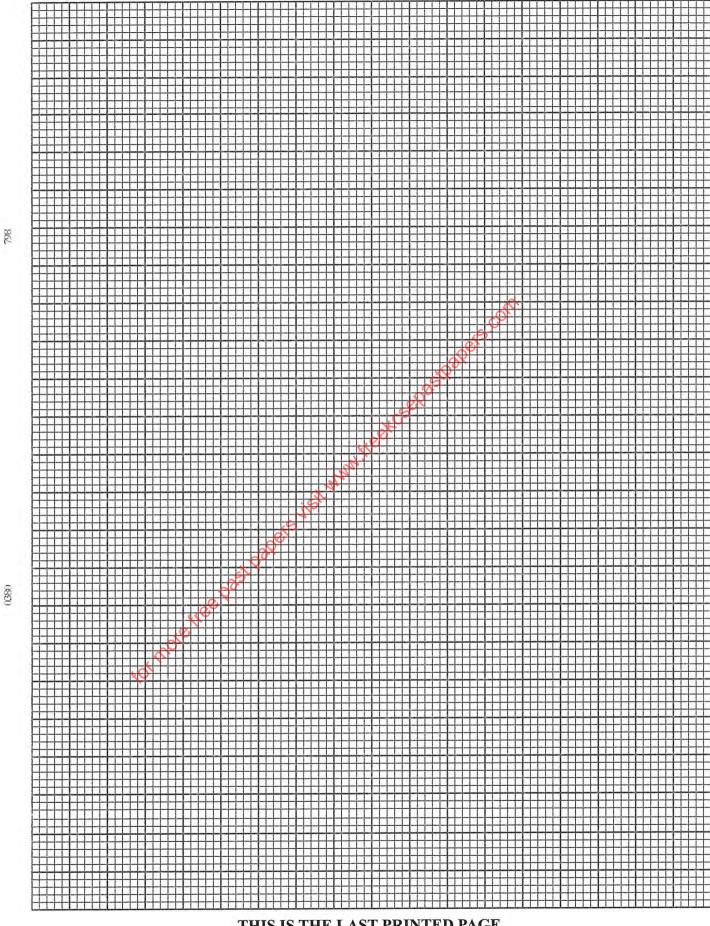
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# THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

443/2 -

# AGRICULTURE (THEORY)

- Paper 2

Nov. 2018 - 2 hours

Name	Index Number
Candidate's Signature	Date
Instructions to candidates (CSE) 2018 2018 2018 2018 2018 2018 2018 2018	2018 2018 20 20 2018 2018 2018 2018 2018
(a) Write your name and index number in the si (b) Sign and write the date of examination in the	e spaces provided above.

c) This paper consists of **three** sections; **A**, **B** and **C**.

(d) Answer all the questions in sections A and B.(e) Answer any two questions in section C,

(f) All answers should be written in the spaces provided in the question paper.

(g) This paper consists of 16 printed pages.

(h) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

(i) Candidates should answer all the questions in English.



#### For Examiner's Use Only

Section	Question	Maximum Score	Candidate's Score
Α	1–16	30	
В	17–20	20	
С		20	
		20	
	<b>Total Score</b>	90	



## SECTION A (30 marks)

Answer all the questions in this section in the spaces provided.

1.	State six characteristics of a good breeding stock.	(3 marks)
	a com	
	and the second s	
2.	State four reasons for maintaining farm tools and equipment.	(2 marks)
	"iliegh Co	
	whi	
	State four reasons where call should be fed on colostrum	
	ost Paly	
3.	State four reasons why a calf should be fed on colostrum.	(2 marks)
	note	
	rol ,	
	*	
4.	Give two reasons for growing grass around a fish pond.	(1 mark)

Nar	ne four systems of poult	y rearing.	(2 marks
		······	
••••			
Stat	e three advantages of con	ntemporary comparison method	
			(1½ marks)
		ES ROS	, s.com
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		6K2	
Give	e the meaning of the follo	wing terms as used in livestock	c breeding:
(a)	close breeding	e visit V	(½ mark)
		wing terms as used in livestock	
<i>a</i> >	eQ		
(b)	line breeding		(½ mark)
	forthore		
(c)	out crossing		
,	out crossing		(½ mark)
d)	cross breeding		(½ mark)

	8.	State	e four livestock rearing practices undertaken in a crush to control parasit	es and diseases.
				(2 marks)
		******		
	0	NT		
	9.	Nam	the dairy cattle breed that	
		(a)	produces the highest milk yield in kilograms	(½ mark)
160				
		(b)	is fawn/brown coloured with white colour on the face, legs below kne switch and flanks	es and hocks, tail (½ mark)
			oers.	
			ast [®]	
		(c)	is most suitable for marginal areas with poor pastures.	(½ mark)
			Week.	
	10.	Disti	nguish between each of the following breeding practices:	
		(a)	crutching and ringing	(1 mark)
		(a)	crutching and ringing	
92			1/00 Q	••••••••••
100			nore.	
			*fot Mol	
		(b)	tupping and serving	(1 mark)
	11.	What	t is a predisposing factor of a disease?	(1 mark)
芸	discharinging in			
r. Fr				

12.	State	e four candling qualities of good eggs for incubation.	(2 marks)
13.	Apa	rt from the roof, name four other parts of a building that can be constructe	ed using wood. (2 marks)
		White course	
		, the exception	
14.	State	e four symptoms of internal parasite intestation in livestock.	(2 marks)
		isit	
		Carle Commence	
		I mote field	
15.	State	the functional difference between the following:	
	(a)	cross-cut saw and rip saw	(1 mark)
	(b)	wood chisel and cold chisel	(1 mark)

160

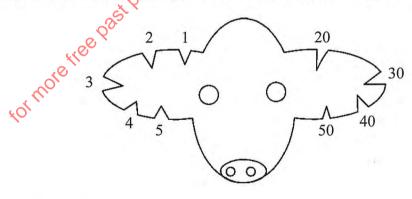
16.	Give	the meaning of the following terms as used in livestock health:	
	(a)	predisposing factor	(1 mark)
	(b)	incubation period	(1 mark)
		com	
		SECTION B (20 marks)	
		Answer <b>all</b> the questions in this section in the spaces provided.	
17.	The	Answer all the questions in this section in the spaces provided.  diagram below shows a livestock parasite.	
		Hol more traces of the second	
	(a)	Identify the parasite.	(1 mark)
	(b)	Explain how the parasite is passed from	
		(i) livestock to human beings	(1 mark)

	(ii) human beings to livestock	(1 mark)
(c)	Explain two control measures for the parasite in a zero grazing unit.	(2 marks)
	diagram below illustrates a tractor drawn implement.  H	
(a)	Identify the implement	(1 mark)
(h)	Name the rest let 11 1	
(b)	Name the part labelled	
	H	
	J	(1 mark)
(c)	State <b>one</b> function of the part labelled $K$	(1 mark)
(c)	J	(1 mark)

(d)	Explain why the implement is suitable for ploughing areas with hidden stones.	(1 mark)

A farmer is required to prepare 200 kg of dairy meal containing 18% digestible (DCP). Using the Pearson's Square Method, calculate the quantity of sunflower DCP) and maize germ (7% DCP) the farmer requires for the dairy meal.	
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20. The diagram below represents a practice of identifying livestock on a farm.



(a) Identify the practice (1 mark)

19.

(b)	Determine the number that identifies the animal represented by the illustration	(1 mark)
(c)	Draw a diagram of the animal identified by the number 148 on the farm.	(1 mark)

(d) Give **two** reasons why this method of identification is discouraged in livestock rearing.

(2 marks)

### SECTION C (40 marks)

Answer any two questions from this section in the spaces provided after question 23.

21.	(a)	Describe how natural incubation is set up and managed.	(8 marks)
	(b)	Describe the management of growers in poultry rearing.	(5 marks)
	(c)	Describe seven possible sources of power on a farm.	(7 marks)
22.	(a)	Describe pneumonia disease under the following sub-heading	ngs:
		(i) causal organism	(1 mark)
		(ii) animals affected	(2 marks)
		<ul> <li>(ii) animals affected</li> <li>(iii) predisposing factors</li> <li>(iv) symptoms</li> <li>(v) control measures.</li> </ul> Explain seven housing requirements for a calf	(2 marks)
		(iv) symptoms	(5 marks)
		(v) control measures.	(3 marks)
	(b)	Explain seven housing requirements for a calf.	(7 marks)
23.	(a)	State five signs of heat in cattle.	(5 marks)
	(b)	State five advantages a spray race has over a plunge dip.	(5 marks)
	(c)	Give five reasons for maintaining livestock healthy.	(5 marks)
	(d)	Explain five factors that determine the amount of food eaten	by a livestock animal.
		Explain the factors that determine the amount of food eater	(5 marks)

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#### THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

101/1 -

# **ENGLISH**

## - Paper 1

## (Functional Skills)

Nov. 2018 - 2 hours

Name	Index Number
Candidate's Signature	Date

233



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Instructions to candidates

- (a) Write your name and index number in the spaces provided above
- (b) Sign and write the date of examination in the spaces provided above.
- (c) Answer all the questions in this paper.
- (d) All your answers must be written in the spaces provided in the question paper.
- (e) This paper consists of 8 printed pages.
- (f) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- (g) Candidates must answer the questions in English.

____

For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1	20	
2	10	
3	30	



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Important. (20 mars)	1.	A travelling theatre group is staging a performance of one of the literature set books in the local sub-county hall. Members of the drama club, the form three students and the form four students would want to watch the performance. As the secretary of the drama club, write a letter to the principal asking for formal permission. In your letter, give details about who will attend, the date and time of the performance and the cost. You should also explain why the performance is important. (20 marks)
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2.	Read the passage below and fill in each blank space with the most appropriate word.	
		(10 marks)

(Adapted from Everything Leadership Book by Bob Adams)

3. (a) Read the Poem below, and then answer the questions that follow.

#### A POISON TREE

I was angry with my friend:
I told my wrath, my wrath did end.
I was angry with my foe:
I told it not, my wrath did grow.

And I watered it in fears, Night and morning with tears; And I sunned it with smiles, And with soft deceitful wiles.

And it grew both day and night. Till it bore an apple bright. And my foe beheld it shine, And he knew that it was mine.

And into my garden stole, when the night had veiled the pole; in the morning glad I see; My foe outstretched beneath the tree.

By William Blake



	(1)	Identify and explain any <b>two</b> features that would make this poem easy to recite.  (4 marks)
	(ii)	Describe the rhyme scheme of this poem. (3 marks)  The scheme of this poem. (3 marks)  The scheme of this poem. (2 marks)  The scheme of this poem, how would you say the last line? (2 marks)
		**************************************
		*16 NC2
		May.
	(iii)	In an oral performance of this poem, how would you say the last line? (2 marks)
		One of the second secon
		In an oral performance of this poem, how would you say the last line? (2 marks)
		, o
(b)	Payin	attention to the vowel sound in each of the following words, pick the odd one out.  (6 marks)
	(i)	scene, ship, these, bean, be
	(ii)	one, sun, put, ton, but
	(iii)	hard, hurt, firm, earn, fur
	(iv)	rode, coat, port, sew, know
	(v)	sit, nine, fight, eye, hide
	(vi)	soup, food, sue, root, good

(c)	For each one way but spel	For each one of the words below, provide another word which is pronounced in the same way but spelt differently. (5 marks)					
	mite						
	rest						
	waist						
	stare						
	rain						
(d)	Read the dial	Read the dialogue below then answer the questions that follow.					
	Ms. Simiyu:	Good morning Kantai, why are you waiting outside?					
	Kantai:	Good morning Madam. I was waiting to speak to you.					
	Ms. Simiyu:	What is the problem this time? Are the boys in your class fighting again?					
	Kantai:	There is no problem, Madam. My class sent me to ask you to allow them to attend the entertainment session toporrow.					
	Ms. Simiyu:	You already know the answer to this, Kantai. Your class had their turn last weekend.					
	Kantai:	It is true Madam, we had our turn last weekend. But Madam, the video showing this weekend is based on one of our literature set texts. Here is the notice Madam.  Let me see it.					
	Ms. Simiyu:	Let me see it.					
	Kantai:	Here, Madam. Also Madam, we have come up with questions which we will answer and discuss in groups after watching the video.					
	Ms. Simiyu:	Where are the questions?					
	Kantai:						
		Here they are Madam.					
	(i) What r	marks politeness in this negotiation? (2 marks)					
	(1) What r						
	607						
	(ii) What is	n this negotiation shows that Kantai had prepared his case well? (2 marks)					

(	iii)	What in Ms. Simiyu's behaviour encourages Kantai to continue with the negotiation? (2 marks)
(:	iv)	Provide <b>two</b> appropriate turns to complete the negotiation; one from Ms. Simiyu and one from Kantai. (4 marks)
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# THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

101/2 -

## **ENGLISH**

- Paper 2

(Comprehension, Literary Appreciation and Grammar) Nov. 2018  $-2\frac{1}{2}$  hours

Name	Index Number
Candidate's Signature	Date

031

#### Instructions to candidates

- a) Write your name and index number in the spaces provided above.
- (b) Sign and write the date of examination in the spaces provided above
- (c) Answer all the questions in this question paper.
- (d) All your answers must be written in the spaces provided in this question paper.
- (e) This paper consists of 11 printed pages.
- (f) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- (g) Candidates must answer the questions in English.



340

### For Examiner's Use Only

Question	Maximum Score	Candidate's Score
1	20	
2	25	
3	20	
4	15	
	Total Score	



#### 1. Read the passage below and then answer the questions that follow.

In life, we meet and learn from three different kinds of disciplines. The first and probably the most important is that which we might call the Discipline of Nature or of Reality. This type of discipline requires that when people choose to do the wrong things, they will get the wrong results. If, for instance, a musician hits the wrong key, he or she hears the wrong note. If the nail is not squarely hit on the head, it bends and it therefore has to be pulled out.

People meet the Discipline of Nature every time they try to do something. This is why it is so important in school to give students more chances to do things, instead of just reading or listening to someone talk. This discipline is a good teacher. The learner never has to wait long for the answer, it usually comes quickly, often instantly. The answer is often clear, and it points towards the needed correction. This way, the learner does not only see that what was done is wrong, but also why, and what they need to do instead. Finally, and most importantly, the giver of the answer, call her 'Nature' is impersonal, impartial and indifferent. She does not give opinions or make judgement. With Nature, one always gets an opportunity to start afresh, this time with the intention of doing things right.

The next type of discipline is the Discipline of Culture. Man is a social and cultural animal. Everyone, thus, senses around them this discipline, this network of agreements, customs, habits and rules binding the society together. People always seek to understand the society and be part of it. They watch very carefully what other people around them are doing and wish to do the same. These unwritten rules regarding how to act in specific situations are called social norms. Social norms help delineate what is acceptable behaviour. For example, it is not acceptable to be loud and **boisterous** in a place of worship.

The third discipline is the one most people refer to when they speak of discipline – the Discipline of Superior Force. It is the discipline of "You do what I tell you or I'll make you wish you had." There is bound to be some of this in a person's life. Living as we do surrounded by things that can hurt us and our friends, we cannot avoid the Discipline of Superior Force. For example, no one can let a child find out from experience the danger of playing with fire. So along with other **precautions**, the child is told not to play with fire or they will be punished.

There are situations where all the three disciplines overlap. We often hear people say that students will never do anything unless they are compelled to. But in their private lives, or in co-curricular activities in school, they often **submit** themselves, willingly and wholeheartedly to very intense disciplines simply because they want to learn to do a given thing well. So, discipline, does not only stem from authority figures such as parents and teachers but it also comes from a person's willingness to do right.

Adapted from Connelly Mark's The Brief Sundance Reader: Thomson Heinle, 2003

(a)	What are we told about the Discipline of Nature in the first paragraph?	(2 marks
		••••••
(b)	Identify and explain the use of personification in paragraph two.	(2 marks)
	COL.	
(c)	Why do you think the Discipline of Nature is said to be a good teacher?	(4 marks)
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(d)	"You do what I tell you or I'll make you wish you had." What does this state	
		(2 marks)
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(e)	"So, discipline does not only stem from authority figures such as parents and but it also comes from a person's willingness to do right".	teachers
	(Rewrite beginning: Not only)	(1 mark)

(f)	In about 60 words, summarise what we are told about the Discipline of Culture.  (6 marks)
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(g)	Expl	(3 marks)	
	(i)	Boisterous	
	(ii)	Precautions	
	(iii)	Submit	

## 2. Margaret Ogola, The River and the Source

Read the excerpt below and then answer the questions that follow.

"Now Nyabera, I don't believe a daughter of mine could sound so foolish. Of course they are human, that is why they are called white people, not white animals. And trust is something to give to people who have earned it and therefore you have to give them a chance to do so. I would not trust your uncle Otieno although he is as black as the bottom of the pot I boil maize and beans in. Finally, you'd better know that I aim to get some help from them against Otieno. The future of your nephew Owuor is in their hands so start praying."

"Oh, mother! Please don't go! What if something happened to you? I am afraid, mother, I am so afraid! And how can you leave Owuor alone considering the kind of irresponsible mother he has? Oh, mother, I feel like this family is cursed. What if something happened to him, to you? Nyabera waited, her tears running in full force. Akoko stood up to her full height which barely reached her daughter's shoulders. Her eyes were blazing fit to send sparks to set the thatched roof ablaze.

"Nyabera, you are not the woman I brought you up to be. I know you have suffered, but suffering is the lot of many. To suffer is not a curse unless you have earned it and I have never done anything to earn a curse. Both the evil and the good suffer. How you come through suffering is what will make or break you. Please think, my daughter. At least you can have children and you have a good husband. One day *Were* will give you a child that lives; I am sure of it after what you have just told me. But to have a child is one thing, to bring it up to be a human fit to live with others is something else altogether — and the way you are going I doubt if you will be fit to be a mother when the baby comes. You may be just like Alando your sister-in-law. You have known me all your life. How could you ever imagine that I could leave my grandson at the Mercy of your uncle? I've taken him to Yimbo to live in the house of Oloo, my brother. Are you happy now?"

"Oh mother! Why didn't you bring him here to stay with me? Don't you trust me?" "Of course I trust you. I thought of bringing him here, but I decided it was too near the nest of vipers who now occupy the stool of Maroko, the first chief. Please can you show me a place to rest? I will be staying with you for a few days before I leave for Kisumu. That way no one will know or suspect my motives." Nyabera conducted her mother to her mother-in-law's house as *Chik* did not allow her to spend the night in a married daughter's house.



The next few days passed pleasantly enough, with mother and daughter chatting for hours about their lives, their people, their past, their future, their hopes and all manner of things. On the fifth day she embarked on a journey which would bring her and her scant offspring to a new era: for the great river starts its journey as a little stream which at first meanders around without any apparent direction, sometimes disappearing underground altogether, but always there, always moving towards the sea.

(a)	Briefly describe what happens before the events in this excerpt.	(2 marks)
(b)	From the excerpt, what do we learn about Akoko's character?	(6 marks)
	- A Company of the co	
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(c)	Who are being referred to as a 'nest of vipers' and why?	(3 marks)
	of Right	
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(d)	What main theme emerges from this excerpt? Illustrate your answer.	(3 marks)

(e)	What is the tone of the excerpt? Explain your answer.	(3 marks
(f)	With reference to the novel, briefly explain the symbolism in the lexcerpt.	ast paragraph of the (4 marks)
(g)	How was Akoko's case handled by the white man	(4 marks)
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3. Read the following poem and then answer the questions that follow.

#### The Man He Killed

"Had he and I but met, By some old ancient inn, We should have sat us down to wet Right many a nipperkin!

But ranged as infantry, And staring face to face, I shot at him as he at me, And killed him in his place.

I shot him dead because – Because he was my foe, Just so, my foe of course he was; That's clear enough; although.	
I shot him dead because — Because he was my foe, Just so, my foe of course he was; That's clear enough; although.  He thought he'd 'list, perhaps off-hand like — just like I — Was out of work — had sold his traps — No other reason why.  Yes; quaint and curious war is! You shoot a fellow down	
Yes; quaint and curious war is!	
You shoot a fellow down	
You'd treat if met where any bar is,	
or help to half-a-crown."	
Thomas Hardy (1840–1923)	
(a) Briefly explain what the poem is about. (3 mark	ks)
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	••••

b)	Identify and explain any two stylistic devices used in this poem.	(6 marks)
)	What do we learn about the persona from this poem?	(4 marks)
	Describe the tone of this poem.	
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	Describe the tone of this poem.	(3 marks)
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	What is the message of this poem?	(3 marks)
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	Explain the meaning of the word 'quaint' as used in the poem.	(1 mark)
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031

1.	(a)		rite the following sentences according to the instructions given after each. ge the meaning.	Do not (5 marks)
		(i)	They will look after Bakari. (Begin: Bakari)	
				,
		(ii)	The textbooks said the teacher are not adequate. (Punctuate correctly)	
		(iii)	I know that one of your books has been published.	
			(Begin: I know that a)	
			ACS.	
		(iv)	I will help him only if he asks me to.	
		(iv)	(Rewrite using the word "unless")	
			isit	
		(**)	All of Go went to page our overne	
		(v)	All of us want to pass our exams.  (Begin: None)	
			No.	
		MA	V	
		KO.		
	(b)	Fill i	n each blank space with the correct alternative from the given choices.	(3 marks)
		(i)	The bank, in conjunction with the clubs, sponsored the (has, have)	ne event.
		(ii)	Neither Karimi nor her friend there. (was, were)	
		(iii)	Kawira is one of those people who always in a hurry.	(are, is)

(c)	Fill	in each blank space in the following sentences with a correct preposition.
		(3 marks)
	(i)	We know how proficient Jane is her work.
	(ii)	Many people are not accustomed such treatment.
	(iii)	The accident victim writhed pain as we rushed him to hospital.
(d)	Expl	ain the meaning of the underlined expression in each of the sentences below. (2 marks)
	(i)	Nyabera really is a top notch administrator.
		<u>6</u> 0,
	(ii)	He has a heart of gold.
(e)	Comp	plete the following sentences using an appropriate expression from those given in
	brack	tets. (2 marks)
	(i)	At my sister's graduation party, there were (a great deal of, plenty of) people.
	(ii)	You only require (a little, little) salt in your diet.
		A TITOLO
	<u>×</u>	

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# THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

# 565/2 - BUSINESS STUDIES - Paper 2

Nov. 2018 - 2½ hours

Name	Index Number
Candidate's Signature	Date

#### Instructions to candidates

739

- (a) Write your name and index number in the spaces provided above.
- (b) Sign and write the date of the examination in the spaces provided above. 201
- (c) This paper consists of six questions.
- (d) Answer any five questions.
- (e) Write your answers in the spaces provided after question six
- (f) All questions carry equal marks: 2018 2018
- (g) This paper consists of 16 printed pages.
- (h) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- (i) Candidates should answer the questions in English.

### For Examiner's Use Only

Question	Maximum Score	Candidate's Score
ile	20	
	20	
	20	
	20	
	20	
	<b>Total Score</b>	



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- 1. (a) Explain **five** circumstances that may lead to the existence of a business opportunity to be exploited by the entrepreneur. (10 marks)
  - (b) Explain **five** factors that Chuma Steel Manufacturers may consider when choosing a channel for distributing their products. (10 marks)
- 2. (a) Explain **five** clauses that must be specified in the Memorandum of Association of a public limited company. (10 marks)
  - (b) The following information was extracted from the books of Kisababu Traders on 31 December 2014:

Sh
84,000
58,800
15,700
13,000
1,500
9,000

Required:

- i. Prepare Kisababu Traders Trading Account for the period ending 31 December 2014. (5 marks)
- ii. Work out Kisababu Traders percentage mark up. (2 marks)
- iii. Calculate Kisababu Traders Rate of Stock Turnover. (3 marks)
- 3. (a) Explain five demerits of using carts as a means of transport in towns. (10 marks)
  - (b) Explain five types of direct taxes that the government may use to collect revenue from individuals and companies. (10 marks)
- 4. (a) The demand for soft drinks has been on the increase. Explain **five** factors that may have contributed to this. (10 marks)
  - (b) Describe **five** forms of economic integration that countries may join to promote international trade. (10 marks)

5. (a) Explain five differences between an open office and an enclosed office. (10 marks)

(b) The following opening balances were extracted from the books of Mageta Traders on 1 July 2016:

Details	Sh
Furniture	56,000
Capital	80,000
Creditors	20,000
Debtors	25,000
Bank	11,000
Cash	8,000

The following transactions took place in the course of the month:

- Paid a creditor Sh 4,500 in cash.
- Took Sh3,000 from the bank for family use.
- Bought stock Sh 18,600 on credit.
- Acquired a 10 year bank loan Sh 165,000 which was credited to the business bank account.
- Purchased land worth Sh 82,000 paying by cheque.
- Converted a family table worth Sh 5,500 to business use.
- Received Sh7,300 in cash from debtor.

Required: Prepare Mageta Traders Balance Sheet at the end of July 2016 (10 marks)

- Explain five problems of using national income statistics to compare the living standards 6. (a) (10 marks) of citizens of Kenya and Tanzania.
  - Use the transactions given below to prepare Jawabu Traders two column cash book for (b) (10 marks) the month of February 2015.

Had Sh 12,500 cash and a bank overdraft of Sh 5,000 1st Feb.

Used cash to pay for water bill Sh 800, electricity Sh 1,100 and wages 2nd Feb. Sh 4,700.

Received a cheque of Sh 18,900 from a debtor 3rd Feb.

Sold goods worth Sh7,150 in cash. 5th Feb.

Paid for goods bought for resale worth Sh 6,400 by cheque. 7th Feb.

9th Feb. Received a cheque of Sh 13,000 from the co-operative society as earnings from dividends.

Withdrew Sh 2,500 from the bank for family use. 10th Feb.

Received Sh 15,900 in cash from a debtor. 13th Feb.

15th Feb. Deposited Sh 9,500 from the office into the business bank account.

Paid a creditor by cheque Sh 4,390. 17th Feb.

to part to part pagers visit unum treet con pagers visit u Used all the money in the bank to purchase furniture leaving only a 27th Feb.



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THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

232/3 -

PHYSICS (PRACTICAL)

- Paper 3

Nov. 2018 - 2½ hours

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Question 1

You are provided with the following:

- Some water in a container
- A 10 ml measuring cylinder
- A piece of a glass rod
- A 10 g mass
- 5 paper clips
- A half metre rule
- A metre rule
- Two stands, two bosses and two clamps
- Three pieces of sewing thread

Proceed as follows:

Pour 6 ml of the water into the measuring cylinder. Lower the glass rod into the water and determine the volume V of the glass rod.

 $V = \dots$

(1 mark)

Remove the glass rod from water.

(b) Using a stand and a piece of string, suspend the half metre rule at its centre of gravity C so that it balances horizontally with the scale facing you.

Using a second stand, clamp a metre rule vertically near one end of the half metre rule to note the height at which the half metre rule is horizontal.

Maintain this height throughout the experiment

Record the centimetre mark of the centre of gravity C.

C 5 cr

(1 mark)

(c) Sing the string, suspend the 10 g mass on the half metre rule at a distance d = 2 cm from C. The distance d = 2 cm should be maintained throughout the experiment.

Balance the half metre rule by suspending the glass rod using a string at a distance X from C.

Record the value of X

 $X = \dots cm$

(1 mark)



A054

(d) Using the results in part (a) and (c) determine the;

mass of the glass rod,	(2 marks)
·	
density of the glass rod.	(2 marks)
	<u>M</u>
	No. Coll
	density of the glass rod.

(e) Remove the glass rod. Push the half metre rule through one paper clip and adjust the position of the clip to a point P where the half metre rule balances horizontally. See **Figure 1**.

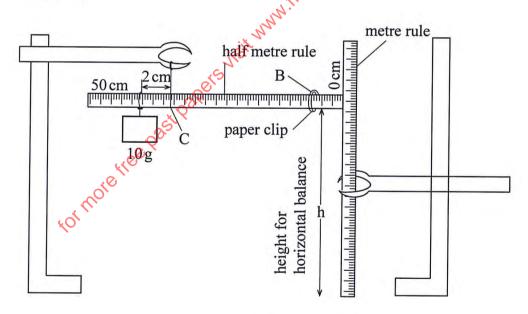


Figure 1

(f) Record the centimetre mark for point P in **Table 1**.

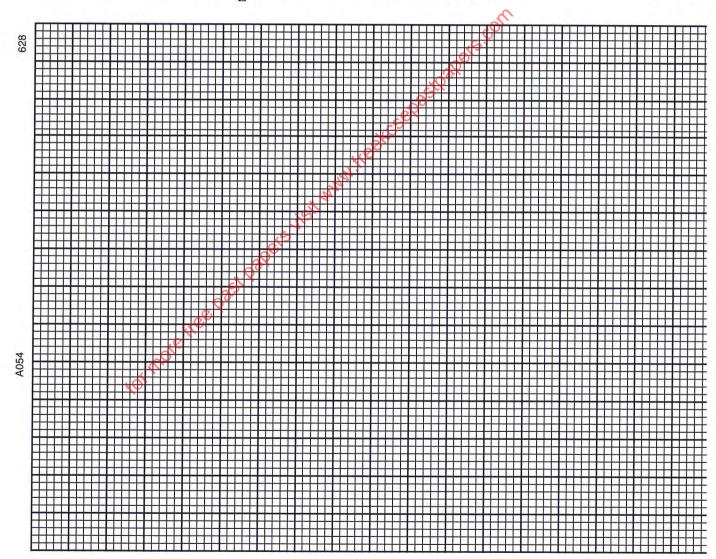
(g) Repeat part (f) for the other number of clips shown in **Table 1** and complete (the clips may be suspended by connecting them as a chain of the required number) (4 marks)

Table 1

Number of clips N	1	2	3	4	5	6
cm mark of P(cm)						
distance L (from c to p)						
$\frac{1}{L}$ (cm ²¹)						

(h) Plot a graph of $\frac{1}{L}$ (y axis) against the number of clips N.

(4 marks)



(i)	Determine the slope S of the graph.	(3 marks)
(j)	Determine K given that: $\frac{1}{L} = 0.05 \text{KN}$	(2 marks)
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QUESTION 2

You are provided with the following:

- (i) A voltmeter
- (ii) A resistor labelled 10Ω
- (iii) A resistance wire mounted on a half metre rule labelled X
- (iv) Two cells in a cell holder
- (v) A switch
- (vi) Eight connecting wires
- (vii) A micrometer screw gauge
- (viii) A resistor labelled $10 \text{ K}\Omega$
- (ix) A galvanometer
- (x) A beaker containing a liquid labelled L
- (xi) Two copper plates
- (xii) A resistance wire labelled AB and mounted on a millimetre scale
- (xiii) A jockey
- (xiv) A vernier calliper

Proceed as follows:

PART A

(a) Measure and record the diameter dof the resistance wire x

(1 mark)

(b) Set up the circuit as shown in Figure 2.

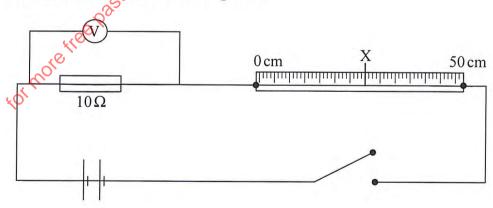


Figure 2

	(i)	Close the switch and record the potential difference V, across the	e 10Ω resistor
		$V_1 = \dots$	(1 mark
	(ii)	Open the switch. Determine the current I flowing in the circuit.	(2 marks
(c)	(i)	Now connect the voltmeter across wire X . Close the switch and recepotential difference V_2 across wire X .	ord the
		$V_2 = \dots$	(1 mark
	(ii)	Determine the resistance R of wire X.	(2 marks
		Determine the resistance R of wire X. Determine K the resistance per metre of wire X.	
		In I Log	
	(iii)	Determine K the resistance per metre of wire X.	(1 mark
		Z Page S	
	(iv)	Determine O given that $O = \frac{\pi K d^2}{M}$ (where d is in metres).	(2 marks)
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PART B

628

(d) (i) Using the vernier callipers measure and record the width W of one of the copper plates

W	=	cm	(1 mark)

(ii) Determine the area A of a 5 cm length of the copper plate

$$A = \dots cm^2$$
 (1 mark)

- (e) Using stands and clamps, hold the copper plates in the beaker such that both plates:
 - (i) reach the bottom of the beaker;
 - (ii) are parallel, vertical and facing each other;
 - (iii) are separated from each other by a distance S.

(f) Connect the copper plates to the circuit as shown in Figure 3.

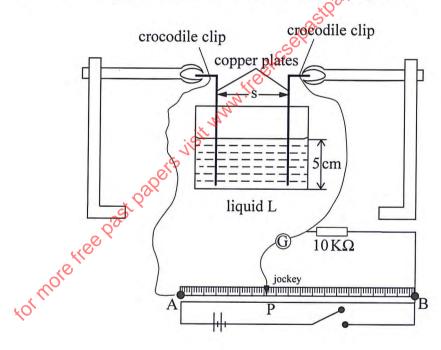


Figure 3

(g) Set the separation distance between the copper plates S to 3 cm. Using the jockey tap wire AB at various points to obtain a point P at which the galvanometer does not show any deflection. Record the balance length L (from A to P) in Table 2.

Repeat part (g) for other values of S shown in Table 2 and complete the table. (6 marks) (h)

Table 2

Plate separation distance S (cm)	3	4	5
Balance length L (cm)			
Resistance R = $\frac{(10 \times 10^3)L}{(100 - L)}$			
Resistance per unit length $K = \frac{R}{S}$			
constant $Z = A.K.$			

(i)	Determine the average value of Z.	(2 marks)
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THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

231/3 -

BIOLOGY (PRACTICAL)

- Paper 3

Nov. 2018 - 13/4 hours

Name	Index Number
Candidate's Signature	Date

Instructions to candidates

- (a) Write your name and index number in the spaces provided above.
- (b) Sign and write the date of examination in the spaces provided above
- (c) Answer all the questions in the spaces provided.
- (d) You are required to spend the first 15 minutes of the 1¾ hours allowed for this paper reading the whole paper carefully before commencing your work.
- (e) Additional pages must not be inserted.
- (f) This paper consists of 7 printed pages.
- (g) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- (h) Candidates should answer all the questions in English.

For Examiner's Use Only

	Question	Maximum Score	Candidate's Score
	2 1	14	
140	2	12	
),	3	14	
	Total Score	40	



1. The photographs below represent three mammalian bones, labelled E, F and G.



(a) With reasons, identify the bones.

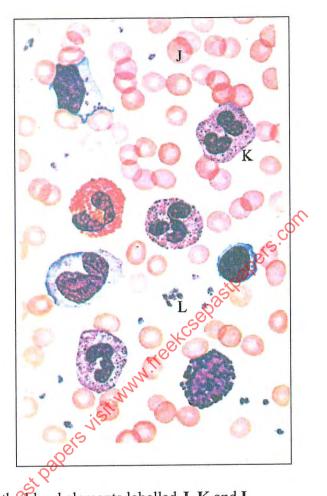
	Bone	Identity	Reason(s)
	E		\$10 ³ 0 ⁸ c
			Reason(s)
		isit nun i eeke	(3 marks)
	F	Jisit W	
		et Papers VIII	
		Ore tree bast base	(2 marks)
	G	018	
	fort		
			(2 marks)
(b)	Name	the joints formed at the anterior and poste	erior ends of F.
	Anteri	ior end	(1 mark)
	Poster	rior end	(1 mark)



State	e the types of movement facilitated by the joint at the anterior end of special led F .	men (1 mark)
(i)	Name the substance found inside the living tissue of the specimen repre photograph F .	
(ii)	State the function of the substance named in (d) (i) above.	(1 mark)
	*Papers.	
	200	
(i)	Name the muscle bundle usually attached onto the front of the specimen represented in photograph F .	(1 mark)
	and the second s	
(ii)	State the function of the muscle bundle named in (e) (i) above.	(1 mark)
	more free past page	
	(ii) (ii)	(i) Name the substance found inside the living tissue of the specimen reprephotograph F. (ii) State the function of the substance named in (d) (i) above. (i) Name the muscle bundle usually attached onto the front of the specimen represented in photograph F. (ii) State the function of the muscle bundle named in (e) (i) above.

A105

2. Below is a photograph of a blood smear from a normal individual. The arrangement is arbitrary and the number of blood elements is greater than what would normally occur in an actual microscopic field.



(a)	(1)	Name the blood elements labelled J, K and L.
		J & C
		Ore .
		(K
	60	Λ
	1	

State one function of each of the elements named in (a) (i) above.	(3 marks)
J	
K	
I.	

(3 marks)

149

(ii)

С	7	a
_	_	Č

(i)	Name the disease.	(1 mark
(ii)	Name the parasite that causes the disease in (b) (i) above.	(1 mark
(iii)	State two control measures for the disease.	(2 marks
	a Patron	
(iv)	State the effects of having the parts labelled G in the patient's inte	estines. (2 marks)
		••••••

3.		-	vided with a specimen labelled H . With the aid of a hand lens, examine the specimen.	ne the external
	(a)	(i)	What part of a plant is specimen H?	(1 mark)
		(11)		(2
		(ii)	Give two reasons for your answer in (a) (i) above.	(2 marks)
	(b)	Oper	n up specimen H longitudinally.	
		Use	a hand lens to observe the internal structures of specimen H.	
149		(i)	Draw and label the internal cut surface and associated structures of	specimen H . (5 marks)
			. www.freekcsepe	
			Draw and label the internal cut surface and associated structures of	
A105		40	morefic	
		(ii)	Explain how you would determine the magnification of the drawin (b) (i) above.	g made in (2 marks)



(iii)	State the mode of dispersal for seeds of specimen H.	(1 mark)
(iv)	Explain how seeds of specimen H are dispersed through the m	ode stated in
	(b) (iii) above.	(3 marks)
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THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

313/2 -

CHRISTIAN RELIGIOUS EDUCATION

- Paper 2

Nov. 2018 - 2½ hours

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Outline Micah's prophecy concerning the Messiah (Micah 5: 2-5). (7 marks) 1. (a) Describe the annunciation of the birth of Jesus by angel Gabriel as recorded in (b) (8 marks) Luke 1: 26-38. (5 marks) State five lessons Christians learn from the Magnificat. (c) Explain the teachings of Jesus on the qualities of a true disciple (Luke 6: 20-49). 2. (a) (8 marks) Describe the incident in which Jesus forgave the sinful woman (Luke 7: 36-50). (b) (7 marks) State five lessons Christians learn from the incident in which Jesus forgave the sinful (c) (5 marks) woman. With reference to the story of the rich man and Lazarus, explain the teaching of Jesus on 3. (a) (7 marks) the proper use of wealth (Luke 16: 19-31). Outline six signs of the end times as taught by Jesus in Luke 21: 5-38. (6 marks) (b) Give seven ways in which Christians are preparing themselves for the second coming of (c) (7 marks) Jesus Christ. Identify eight characteristics of love as taught by Saint Paul in 1st Corinthians 13. 4. (a) (8 marks) Explain the unity of believers as expressed in the concept of the church (b) (5 marks) (Ephesians 5: 21-32). Identify seven factors that hinder effective cooperation among Christians in Kenya (c) (7 marks) today. (6 marks) Outline the importance of professional Codes of Ethics. 5. (a) Identify seven factors that have led to an increased rate of child labour in Kenya today. (b) (7 marks) State seven ways through which Christians in Kenya are helping to reduce child labour (c)

(7 marks)

in the society.

6.	(a)	Give seven reasons why Christians are opposed to plastic surgery.	(7 marks
	(b)	State seven effects of pollution on the environment in Kenya today.	(7 marks
	(c)	Identify six ways through which Christians in Kenya can control desertifi	
		emistions in Kenya can control deserting	cation. (6 marks
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THE KENYA NATIONAL EXAMINATIONS COUNCIL Kenya Certificate of Secondary Education

232/2 -

PHYSICS

- Paper 2

Nov. 2018 - 2 hours

Name	Index Number
Candidate's Signature	Date

Instructions to candidates

- 2018 2018 018 018 201
- (a) Write your name and index number in the spaces provided above.
- (b) Sign and write the date of examination in the spaces provided above.
- (c) This paper consists of two sections: A and B.
- (d) Answer all the questions in sections A and B in the spaces provided.
- (e) All working must be clearly shown in the spaces provided in this booklet.
- (f) Non programmable silent electronic calculators may be used.
- (g) This paper consists of 16 printed pages.
- (h) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.
- (i) Candidates should answer the questions in English.

For Examiner's Use Only

Section	Question	Maximum Score	Candidate's Score
Ac	1-14	25	
tolWol	15	10	
No.	16	11	
В	17	12	
	18	11	
	19	11	
	Total Score	80	



SECTION A (25 marks)

Answer all the questions in this section in the spaces provided.

	1.	Explain why the walls of a studio are padded with woollen materials. (2 mag	ks)
-	2.	State one characteristic of soft X-rays that distinguish them from hard X-rays. (1 ma	rk)
284		ast Range of St.	••••
		cse ^Q	••••
	3.	Figure 1 shows a bar magnet AB suspended by a string.	
AIUZ		Figure 1 shows a bar magnet AB suspended by a string. A B Figure 1	
		Figure 1	
		When the North pole of another magnet is brought close to end A, there is repulsion. State the polarity of end B. (1 mag	
			•••
	4.	State what happens to the image formed by a pin hole camera when the size of the hole is increased. (1 mar	k)
4.4			

5. The angle of incident for a ray of light moving from air to a certain liquid is 30°. Given that the refractive index of the liquid is 1.36, determine the angle of refraction. (2 marks)

6. An electric kettle is rated 1.8 kW, 240 V. Determine the rating of the fuse that may be used in the kettle. (3 marks)

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7. Figure 2 shows the image of an object O placed on the principle axis of a convex mirror.

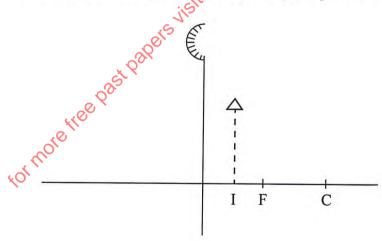


Figure 2

On the figure, draw a ray diagram to locate the object.

(3 marks)

	8.	Define radioactivity.	(1 mark)
	9.	A transformer has 600 turns in the primary coil and 9000 turns in the secontary coil is 0.15	ondary coil. If the 5A, determine the
		current in the primary coil.	(3 marks)
584			
25		*Og6	
	10.	The sharp point of a pin is brought near the cap of a positively charged el	entrascana Stata and
		explain the observation made on the leaf of the electroscope.	(3 marks)
		EX POX	
		e Pas	
		No.	•••••••••••••••••••••••••••••••••••••••
A102		kol kol	
	11.	Arrange the following radiations in the order of increasing wavelengths;	
		Purple light, Gamma rays, infrared and ultraviolet.	(1 mark)
	12.	State the purpose of manganese (IV) oxide in a dry cell.	(1 mark)



14. Figure 3 shows two current-carrying wires A and B passing through a cardboard.

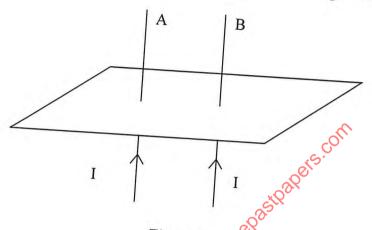


Figure 3

On the diagram, sketch the magnetic field lines around the wires to show how the fields interact.
(2 marks)

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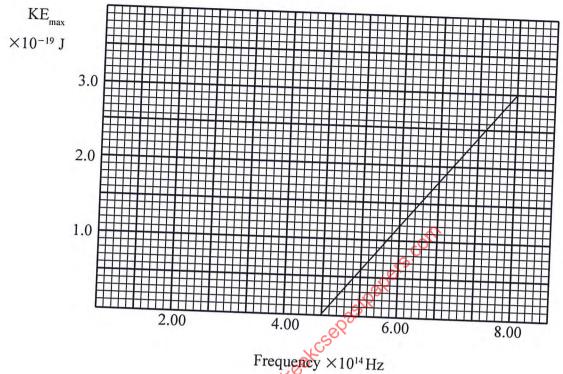
SECTION B (55 marks)

Answer all the questions in this section in the spaces provided.

15.	(a)	Electrical energy is transmitted at very high voltages and low current.	
		(i) Describe how the high voltages are attained.	(1 mark)
		(ii) State two reasons why thick aluminium wires are preferred to copp transmission over long distances.	per wires for (2 marks)
4		ere con	
584		No Apper	
		Figure 4 shows an electric cooker connected to the mains supply. X, Y ar	nd Z are the
	(b)	mains wires.	
		Y Y	
		Ders Z	
		Quest V	
A102		cooker casing	
		Figure 4	
		State with a reason the name of wire Y.	(2 marks

(i)	State the number of such bulbs that can be connected normally to a 240 V supply
	through a 5A fuse. (2 marks
(ii)	If the cost of electric energy is Ksh 3.00 per kWh, determine the cost of running
	the bulbs in (c) (i) for 5 hours daily for 20 days. (3 marks)
	, s.c.
	the state of the s
	- Agenta
	est est
	wife.
	The state of the s
	If the cost of electric energy is Ksh 3.00 per kWh, determine the cost of running the bulbs in (c) (i) for 5 hours daily for 20 days. (3 marks)
	oast V

			8
16.	(a)	State	the meaning of the following terms:
		(i)	Photoelectric effect (1 mar
		(ii)	Threshold frequency (1 mar)
	(b)	Figu:	re 5 shows some light incident on the cathode of a photocell. The photocell is ected in series with a battery, a variable resistor and a microammeter.
			incident light evacuated tube
			IN. Free Reservation (MA)
			μA)
			Figure 5
		(i)	Explain how the microammeter reading is affected when the intensity of the incident light is increased. (2 marks
		tolk	
		(ii)	State the reason why the tube is evacuated. (1 mark



riequency XIO	[†] Hz
From the graph, determine: (i) Plank's constant have seen the seen that	
Figure 6	
From the graph, determine:	
3/5	
(i) Plank's constant h	(2 - 1)
ast Q	(3 marks)
- Co	
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60,	
••••••	
••••••	

(ii)	the threshold wavelength λ_0 given that the speed of light C is $3.0 \times 10^8 ms^{-1}$.
	(3 marks)

17.	(a)		r waves from a certain source move from the shallow end to the deep end ge that occurs at the deep end on the following:	l. State the
		(i)	Frequency	(1 mark)
		(ii)	Wavelength	(1 mark)
		(iii)	Velocity	(1 mark)
584	(b)	(i)	A biconvex lens forms an upright image twice the size of the object. If length of the lens is 20 cm, determine the object distance.	the focal (4 marks)
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			www.keek	
			· · · · · · · · · · · · · · · · · · ·	
		(ii)	State two optical instruments which produce a magnified real image us convex lens.	sing a (2 marks)
A102		. ا	COLE LIE	
Ą	(c)	State	one difference between the working of the human eye and the lens of a	camera. (1 mark)



		(d)	A le	ens of focal length 20 cm forms a virtual image when an object is pla lens. State with a reason the type of lens used.	ced 60 cm from (2 marks
	18.	(a)	(i)	Draw a circuit diagram showing the depletion layer of a p-n junction connected in the reverse bias mode.	tion diode (2 marks)
584				ipapers.co.	
				Laekese Pass	
				i cit www.tre	
				State the reason why increasing the external voltage in (i) makes the layer wider	
				res de	
A102			(ii)	State the reason why increasing the external voltage in (i) makes the layer wider.	ne depletion (1 mark)
			(iii)	State the meaning of breakdown voltage of a junction diode.	(1 mark)

A102

(iv)	State one application of diodes.	(1 mark)

(b) **Figure 7** shows the output on a screen of a CRO when an a.c. signal is connected to the y-plates with the time base on.

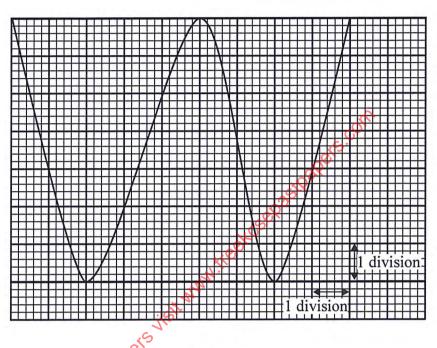


Figure 7

(i) Given that the time control is 5 ms per division and the y-gain is 100 V per division, determine the:

frequency of the a.c. signal	(2 marks)
peak voltage of the input signal	(3 marks)

584

(II)

(ii)	State the adjustment that may be made in order to halve the frequency of the a.c. signal.
	signal. signal.
	(1 mark)
	•••••••••••••••••••••••••••••••••••••••

Figure 8 shows two waves of nearly equal frequency produced simultaneously. 19.

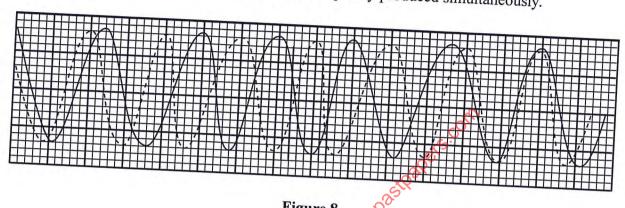


Figure 8

On the space provided, sketch the resultant of the two waves (beats).

(2 marks)

Figure 9(a) and 9(b) show barriers placed in the path of plane waves. (b)

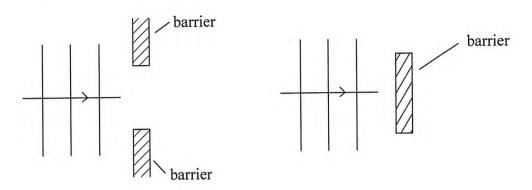


Figure 9(a)

Figure 9(b)

pass the past pagers visit www.treekcsepastpagers.com On each figure, sketch the pattern of waves after they pass the barrier.

(2 marks)

(c) Figure 10 shows a displacement-distance graph for a certain wave motion.

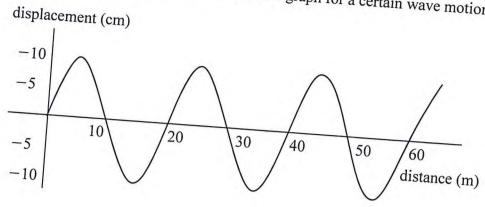


Figure 10

(i) Indicate on the figure with letters A and B any two points that are in phase.

(1 mark)

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(ii) Determine the:

(I)	amplitude of the wave	
	adycse	(1 mark)
	nn ¹ 10	

(II) wavelength of the wave

(1	mark)
(1	mark

......

note ties t

(iii)	Given that the frequency of the waves is 50 Hz, determine the:				
(111)	(I)	period	(1 mark)		
			(3 marks)		
	(II)	speed of the wave	(5 marks)		
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