NAME:	INDEX NO:
SCHOOL:	SIGNATURE :
DATE:	•••

231/2 BIOLOGY THEORY Paper 2 July/August, 2016 Time: 2 Hours

KAKAMEGA SOUTH SUB-COUNTY JOINT EVALUATION TEST – 2016

Kenya Certificate of Secondary Examination (KCSE)

231/2 BIOLOGY THEORY Paper 2

INSTRUCTIONS TO CANDIDATES

- 1. Write your name, index number and school in the spaces provided
- 2. Sign and write the date the examination was done in the spaces provided
- 3. This paper consists of two sections, section A and section B. Answer ALL the questions in section A in the spaces provided on the question paper. In section B, answer question 8
- 4. (compulsory) and either question 7 or 8 in the spaces provided after question 8
- 5. Be brief and precise. Unnecessary information and wrong spellings especially of technical terms shall be penalized
- 6. This paper consists of 8 questions on 8 printed pages. Candidates are advised to check the question paper carefully to ensure that all the pages are printed as indicated and no questions are missing
- 7. All answers must be written in the English language

FOR EXAMINER'S USE ONLY

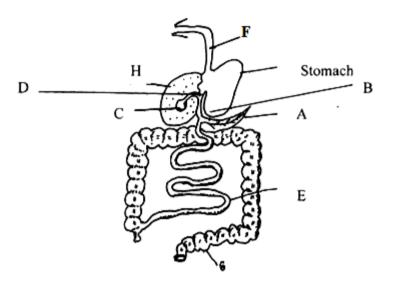
QUESTION	MAXIMUM SCORE	CANDIDATE'S SCORE
1-27	80	

This paper consists of 8 printed pages Check the Question paper to ensure that all pages are printed as indicated and no question are missing.

SECTION A (40 MKS)

Answer ALL the questions in this section in the spaces provided on the question paper.

1. The diagram below shows part of the mammalian digestive system



	a)	Name the parts labeled A, B and D	(3 mks)
		A	• • • • • • • • • • • • • • • • • • • •
		В	
		D	
	b)	State the functions of the parts labeled C and E	(2 mks)
		C	
		F	
	c)	What are the adaptations of the stomach to its function	(2 mks)
			• • • • • • • • • • • • • • • • • • • •
	d)	Name a deficiency disease resulting from lack of proteins in the diet	(1mk)
2.	a)	What is diffusion?	(1mk)
			• • • • • • • • • • • • • • • • • • • •
	b)	How do the following factors affect the rate of diffusion?	
		i) Diffusion gradient	(1 mk)
			• • • • • • • • • • • • • • • • • • • •

		ii) Surface area to volume ratio	(1 mk)
		iii) Temperature	(1 mk)
	c)	Outline four roles of active transport in the human body	(4 mks)
3.	Use	the diagram below to answer the questions that follow.	
	a)	Name the gas that diffuses	
		i) To the body cells	(1 mk)
		ii) From the body cells	(1mk)
	b)	Which compound dissociates to release the gas mentioned in a) ii) above?	(1 mk)
	c)	i) What is tissue fluid?	(2 mks

What is the importance of tissue fluid?

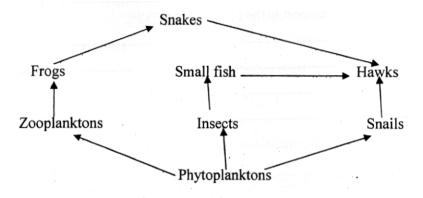
ii)

(1 mk)

a)	Name the blo	ood vessel (s	s) in the	e human	body v	with the	nighest	concentration	of:

i)	Glucose after a meal rich in carbohydrates.	(1 mk)
	Carbon (IV) oxide.	(1 mk)

4. The flow chart below shows a feeding relationship in an aquatic ecosystem



a)	Name	the
a)	ranic	uic.

	i)	Producers in this ecosystem	(1mk)
	ii)	Organisms that occupies the highest trophic level	(1mk)
o)	Write	e a food chain that ends with the hawk as a secondary consumer	(1mk)
c)		the frogs died, state two short-term effects on this ecosystem.	(2mks)
d)	Oil s	spills on water bodies leading to the death of fish. Explain.	(2 mks)
e)	 Give	e one other cause of water pollution other than oil spills.	(I mk)

	ek colour is due to a dominant gene in rats. Two black rats were crossed and their F_1 , ration was in the ratio of 3 black: 1 white. Using letter B to represent the gene for black															
_	ur and b						***************************************	. Obi	ng ic	aci b	о горг	Cocin	, thi	<i>5</i> 501	101 0	iuci
a)	i)	Genoty			•		.									(2
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	•••••	•••••	••••		• • • • •					• • • • • • •		• • • • •		••••		
	ii)	Gamet	es of	f the	-											(2
															• • • • • • • • • • • • • • • • • • • •	
	iii)	Genot	ypic	ratio	o of	the F	1 gen	eratio	n							(3
			••••		• • • • •		• • • • • •	• • • • • •	•••••	• • • • • • • •	•••••	• • • • •		••••		••••
b)	 What	is mean										• • • • •	••••	••••	•••••	
0)	vv IIac	is incui	i Oy	tile		· Cost ·	01055	us us	Ju 111 g							(1
	ver quesi	•••••	••••	••••	••••	<u>SF</u>	ECTIO	ON B	 (40 N	<u>//KS)</u>		••••	• • • •	••••		••••
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ques 6. A T v	wer quest tion 8. An experi	tion 6 (Comment was oung rate constant.	 S ca s we . The	rried rried re pl	ory)	SE and e to in to in c	either vestige age. The area area.	ON B quest gate th The a re sho	tion 7 ne popmoun	MKS) or 8 i oulation t of fo	n the son grown grown and average of the son grown are son grown as the son grown are son gro	space wth o hilabl	f ra	 rovio	ded afte a labor	 er
ques 6. A T v	wer quest tion 8. An experi wenty your was kept was kept in Manager of the control of the contr	tion 6 (Comment was oung rate constant.	as cass we The	rriecerre plus e res	ory) outlaced	SE and e to in d in cobtain 6	vestiguage.	ON B quest gate th The a re sho	tion 7 me popmoun in 12 390	or 8 in the following the foll	n the son grown od availowin	wth outlabling tal	f ra	ts in the	ded afte a labor rats eac	 ator
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c)	Between which two months was the population change greatest	(1 mk)
d)	Calculate the rate of population change over the period you have mention	
		(3 mks)
e)	What population changes would be expected if the investigation was cont further 24 months.	inued for a (2 mks)
f)	State four factors that would cause rapid human population growth	(4 mks)
Desc	cribe the adaptations of the human skin to its functions.	(20 mks)
a)	Define evolution	(2mk)
b)	Discuss the various evidences of organic evolution	(18 mks)
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