NAME:....

ADM NO.....

CLASS:

FORM 4

BIOLOGY

PAPER 231/2

END OF TERM ONE 2019

TIME: 2 HOURS

Instructions to candidates,

.0,

- treekcsepastpapers.com 1. Write your name and admission numbers in the spaces provided above.
- 2. Answer the question 7 (Compulsory) and <u>Either</u> question 7 or 8 in section B.

FOR EXAMINERS USE ONLY

, vision content

QUESTIONS	TOTAL MARKS	CANDIDATES SCORE
1	8	
2	8	
3	8	
4	8	
5	8	
6	20	
7	20	
8	20	
Total	80	

ð.

SECTION A: 40MARKS)

- 1. In a family with four children, the father had blood group A while the mother had blood group B. One of the children had blood group O.
 a). i). What were the genotypes of the parents?
 (2mks)

 ii). What was the genotype of the child with blood group O?
 (1mk)

 b). Work out the possible genotypes of the other children.
 (5mks)
- 2. A healthy plant was kept in the dark for 24 hours following which two if its leaves were enclosed in glass flasks as shown below. The setup was exposed to sunlight for a number of hours.



a). Why was it necessary to keep the plant in the dark for 24 hours? (1mk)

a standard a			
	b). Give the function of each of the following	in the experiment.	
	i). Sodium hydroxide		(lmk)
	ii). Sodium hydrogen carbonate.		(1mk)
	c). Explain the expected results in leaf.		
	i). M when tested for starch.		(2mks)

•			
	ii). N when tested of starch.	*08Perts	(2mks)
· .		Sel Contraction	
	n n n n n n n n n n n n n n n n n n n	an ^{n.}	
	d). Suggest a suitable control for this experime	ent.	(1mk)
ו 04	context.		
3	a). State four differences between a wind pollinate	ed flower and an insect pollinated flower.	(4mks)
	Insect	Wind	
	i).		
	ii).		
	iii).		
	iv).		

3

-4.

and and	/			
	b). State four changes th	at happen to a flower aft	er fertilization.	(4mks)
	·····			

	 4. Form two students subjective i). Selected two equal similarity. Placed two strips of a covered the cobalt change to occur and a change to occur and a strips. 	ected an orange plant gro zed leaves and gently bru dry cobalt chloride paper loride paper with cellota ecorded the following.	wing outside the laboratory to ushed then clean on both sides in both sides of each leaf and pe. They observed the time t	b the following. s. d opposite each other and aken for any colour
	Side of leaf	Upper epidermis	Lower epidermis	
	Пте Такеп	5 minutes	- 2 minutes	
	Use the above informati a). i). What was the aim	on to answer the following of the above experiment	ge questions. ?	(lmk)
		onte		
	ii). What was the pur	pose of brush cleaning th	ie leaf.	(1mk)

	iii). What was the rol	e of cello tape in this exp	periment?	(1 mk)

	b). i). What was the orig	inal colour of dry cobalt	chloride paper.	(1mk)
	ii). What colour char	ge did the students obse	rve.	(lmk)

· 3.

c). Explain the difference in time taken for colour of change observed.	(3mks)
5. a). Distinguish between osmosis and diffusion.	(2mks)
No. 10	
b). With rising of water of Lake Nakuru into the dry land, the submerged trees in th Explain.	ne park all dried up. (3mks)
and the second sec	
-0 ²⁵ 02	
Leon Leon	
x www.	
* CALIER .	
c). Mary has a two year old baby. When she realized that she had to carry her to the have money to buy enough diapers she gave her child a glass of salty water, explained for the state of the salt o	e meeting and did not lain the
	(4mks)
40 ¹ 1.	
•••••••••••••••••••••••••••••••••••••••	•••••••••••••••••••••••••••••••••••••••
	a mena ana ang kana a

4.

SECTION B: (40MKS)

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

6. A research was carried out to determine the trend of growth for some boys and girls. Their average mass in kilograms was taken separately for a period of 20 years and tabulated as shown in the table below.

Age	Average mass of boys (kg)	Average mass of girls (kg)
0	2.5	2.5
2	1111	11.5
4	15.0	16.0
6	18.5	19.3
8	22.1	27.1
10	25.1	27.1
12	27.5	30.6
14	37.0	35.5
16	44.0	44.0
18	46.9	52.5
20	48.5	55.0

a). On the same axis, draw a graph of average mass of girls and of boys against the age. an content visit www.freek (8mks)

1stPapers.com

- b). From the graph, determine the
 - i). Mass for boys at age of 11 years.

(1mk)

ii). Growth rate in girls between age 13 and 15 years. tor more free (2mks)

d). Explain the trend observed in the curves for both boys and girls. (2mks) e). Why do girls above 10 years require intake of food that is rich in iron than boys of the same age. (1mk)

6

÷.,

f).	Mention two other factors apart from the diet that affect the rate of growth and girls.	in boys (2mks)
 g). 	Apart from using average mass to estimate growth in human beings, name be used.	two other parameters that car (2mks)
 7.	Explain how the various specialized cells are modified to carry out their fu	unctions on plants and (20mks)
8.	a). Describe how male reproductive system is adapted to its function.b). Explain the adaptations of kidney tubules to their functions.	(10mks) (10mks)
	N	
	. when	
	VIEL	
••••	ter the second se	
••••		
••••	-visio	
••••		
	a a a a a a a a a a a a a a a a a a a	
••••		
••••		
••••		
••••		*****
••••		
••••		
	7	
		6

or note here relief on content visit unit real capable for a start of the second as th

(

Ć