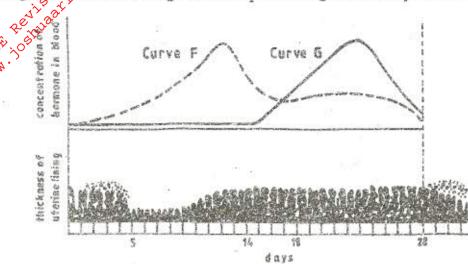
K.C.S.E BIOLOGY 2008 PAPER 231/2

SECTION A (40 marks)

Answer A&L the questions in this section in the spaces provided.

1 The figure Pelow shows changes that take place during menstrual cycle in human.



(8)	Name the hormones whose concentrations are represented by curves F and G.						
		2000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 2000 - 10	(2 marks				
	27						
557.65		***************************************	mondia.				
		£2					
	G						
12111							
(b)	State	State the effects of the hormones named in (a) above on the lining of the uterus.					
	40		(2 marks)				
	F		- 11				
	********		********				
	G	ii .					

(c)	(i)	Name the hormone which is released by the pituitary gl.	and in high				
****	872	concentration on the 14th day of the menstrual cycle.	(1 mark)				
		in the state of th	20 10 10				

	*1 50% F	20 AU 10 EXPENSE 14 (100 II 100 IV III	1657 to 1				
	(ii)	State two functions of the hormone named in (c)(i) about	ve. (2 marks)				
		7					

		***************************************	**************				
(d)	State	the fertile period during the menstrual cycle.	(1 mark)				
(30)	- 1.144	the fertile period during the mension cycle.	S. Commission				

2	A pea plant with round seeds was crossed with a pea plant that had wrinkled some for round seeds is dominant over that for wrinkled seeds.	seeds.
*	Using letter R to represent the dominant gene state:	
	(a) the generype of parents if plant with round seeds was heterozygous;	(2 marks)
	Round seed parent. Wrinkled seed parent. (c) the genotype and phenotype of F ₁ generation. Show your working.	(2 marks)
Ere.	Round seed parent	
axxo.	Wrinkled seed parent	
	(c) the genotype and phenotype of F ₁ generation. Show your working.	(3 marks)
0 8	(d) What is a test-cross?	
		(1 mark)

3	The equation below represents a process that takes place in plants:	
14	6CO ₂ + 6H ₂ O ► C ₅ H ₁₂ O ₆ + 6O ₂	6
	(a) Name the process.	(1 mark)
	(b) State two conditions necessary for the process to take place.	(2 marks)

288	***************************************	
	(c) State what happens to the end-products of the process.	(5 marks)
	()	
	***************************************	*************
4	(a) Give three reasons in each case why support is necessary in:	
	(i) stanta	3 marks)
	(ii) animals.	

	(b) Why is movement necessary in animals?		(2 marks)
	(i) ₂ 0 ² e ⁷		
	Par of other		
	A freshly obtained dandelion stem measuring 5cm		
	A freshly obtained dandelion stem measuring 5cm	**************************************	::::::::::::::::::::::::::::::::::::::
are e	W freehly obtained dendelion stem massuring Some	lang was callt langthwise	to obtain two
e zp.	similar pieces.	loug was some leughtranse	to obtain two
83	The pieces were placed in solutions of different commutes.	ncentrations in petri dishe	s for 20
	The appearance after 20 minutes is as shown.	6	
	7		
	Epidermis-	Epider	mis
		//	
	Piece in L,	Piece in L,	*
14	(a) Account for the appearance of the pieces in	solutions L_1 and L_2 .	(6 marks)
0	L ₁		

	Ł2		
	442	£	
2	14	S	
	331101411111111111111111111111111111111		
	**************************************	;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;	***************
	(b) State the significance of the biological pro	ocess involved in the expe	riment. (2 marks)
	· · · · · · · · · · · · · · · · · · ·		*************

arisection B (40 marks)

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

An experiment was carried out to investigate transpiration and absorption of water in sunflower plants in their natural environment with adequate supply of water. The amount of water was determined in two hour intervals. The results are shown in the table below.

certical

Time of day	Amounts of water in gramme		
imo or cay	Transpiration	Absorption	
11 00 - 13 00	33	20	
13 00 - 15 00	45	30	
15 00 - 17 00	52	42	
17 00 - 19 00	46	46	
19 00 - 21 00	25	32	
$21\ 00 - 23\ 00$	16	20	
23 00 - 01 00	08	15	
01 00 - 03 00	- 04	11	

 Using the same axes, plot graphs to show transpiration and absorption of water in grammes against time of the day. (7 marks)

		atte	
	(b)	At what time of the day was the amount of water the same for	transpiration and
		absorption 20	(1 mark)
	55	×,	= 1

		\$\frac{1}{2}\cdot \frac{1}{2}\cdot \frac	
	(c)	Account for the shape of the graphs of:	gr ⁴¹ **
	é	7, 92,	
		(i) transpiration;	(3 marks)
	100x 30	•	
0	e with		***************
& ⁷			
Le XS		Account for the shape of the graphs of: (ii) transpiration; (iii) absorption.	************
40,20		(ii) absorption.	(3 marks)
67			(3 marks)
λ,			1
	11.7	Ti sidini Nyevyi Pedrika di Katanda Syati Selah Malaya Ang Mandalah M	
	The garget		
0	(d)	What would happen to transpiration and absorption of water is	the experiment wa
		continued till 05 00 hours?	(2 marks)
		***************************************	***************************************
	8 d		
\$	******	**************************************	
8	(e)	Name two factors that may affect transpiration and absorption	
	W.S.S.	the state of the s	(2 marks)
			(4 marks)
	*****	***************************************	51447
		a Sincernation	
7			
10			1 Maria (1986)
	(f)	Explain how the factors you named in (e) above affect transpire	
	(4)	any now are ractors you harred in (e) above affect transpir	
63			(2 marks)
	2004444	······································	
		= =	
	33		

7	Descri	ibe the nitrogen cycle.	(20 marks)
	/ \		CHICAGO CONTROL CONTROL
8	(a)	State four characteristics of gaseous exchange surfaces.	(4 marks)
	(h)	Describe the most of the control of	
	(p)	Describe the mechanism of gaseous exchange in a mammal.	(16 marks)
			8
