

NAME:.....INDEX
.....DATE.....

SCHOOL:.....SIGNATURE.....
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231/2
BIOLOGY
PAPER2
JULY / AUGUST, 2010
2 HOURS

JOINT INTER-SCHOOLS EVALUATION TEST (JISSET) Kenya Certificate of Secondary Education 2010

231/2
BIOLOGY
PAPER2
JULY / AUGUST 2010

INSTRUCTIONS TO CANDIDATES

- ❖ *This paper consists of TWO sections A and B*
- ❖ *Answer ALL the questions in section A in the spaces provided*
- ❖ *In section B answer question 6 (compulsory) and either question 7 or 8 in the spaces provided after question 8*

For Examiner's Use Only

Section	Question	Maximum Score	Candidates' Score
A	1	8	
	2	8	
	3	8	
	4	8	
	5	8	
B	6	20	
	7	20	
	8	20	
		80	

SECTION A Answer ALL questions in the spaces provided

1. (a) (i) Name the structure of the plant where translocation takes place (1 mk)

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(ii) State three structural adaptations of the part named above (3 mks)

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(b) Explain the movement of water from the soil until it reaches the root xylem (4 mks)

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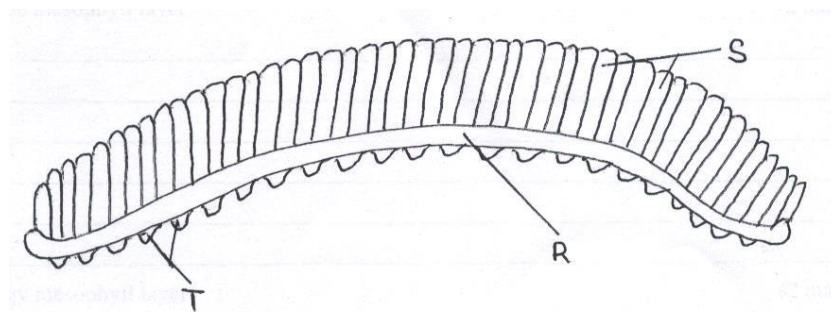
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2. The structure below is found in the members of a class in the kingdom Animalia



(a) Name the class from which the animal with the structure above is found. (1 mk)

.....

.....

(b) State the functions of the parts labelled T and R (2 mks)

T.....

R.....

(c) Name the structure on the animal that protects S from mechanical injury. (1 mk)

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(d) State the adaptations of the part labelled S (4 mks)

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3. (a) Define the term autotrophism (2 mks)

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(b) Explain what happens during the light stage of photosynthesis (2 mks)

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.....
(c) Explain three adaptations of the mesophyte leaf to photosynthesis using the following heading

(i) Palisade mesophyll layer (2 mks)

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.....
(ii) Spongy mesophyll layer (2 mks)

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.....
(d) State the role of Carbon (IV) oxide during photosynthesis (1 mk)

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4. (a) Differentiate between the mode of fertilization in higher plants and in mammals (2 mks)

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(b) Explain the role of the following hormones in the female menstrual cycle

(i) Oestrogen (2 mks)

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(ii) Luteinizing hormone (2 mks)

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(c) Give two functions of the placenta during pregnancy (2 mks)

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5. (a) What is mutation (2 mks)

(b) Explain why certain bacteria and other pathogens become resistant to drugs after some time (2 mks)

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(c) Work out a cross between a Haemophiliac man married to a carrier woman for Haemophilia (3 mks)

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(d) State the phenotypic ratio of the children (1 mk)

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

6. Two individuals X and Y drunk equal volumes of concentrated solution of glucose. The amount of glucose in their blood was determined at intervals. The results are shown in the table below.

Time (minutes)	Glucose level in blood (mg/100cm ³)	
	X	Y
0	87	84
15	112	123
30	139	170
45	116	188
60	100	208
90	95	202
120	92	144
150	88	123

(a) On the grid provided plot a graph of glucose level in blood against time on the same axes (7 mks)

(b) What was the connection of glucose in the blood of X and Y at the 25th minute

(2 mks)

(c) Explain the causes in the level of glucose for the two individuals X and Y after 30 minutes

(4 mks)

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(d) Give your opinion on the Homeostatic condition of X and Y in respect to control of blood sugar level (2 mks)

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(e) (i) Name a hormone in the human body that regulates low blood sugar level (1 mk)

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.....
(ii) How does the hormone named in e (i) above act in the body (2 mks)

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(f) (i) State the role of blood sugar in the human body (1 mk)

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(ii) Name a disease in the human body that results when the body is not able to control its sugar level (1 mk)

7. Describe how the following plants are adapted to their habitat

(a) Xerophytes (12 mks)

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(b) Hydrophytes

(8 mks)

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8. Describe the structure and function of the mammalian ear in relation to hearing and balance

(20 mks)

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