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BIOLOGY
(Theory)
Paper 1
July/Aug. 2024
2½ hours



HOIMA DIOCESE EXAMINATIONS BOARD

UCE Mock Examination, 2024

BIOLOGY
(THEORY)

Paper 1

2 hours 30 minutes

INSTRUCTIONS TO CANDIDATES:

This paper consists of two sections; A and B

Attempt all items in Section A in the spaces provided.

Answer two items in section B, taking one item from each of the parts I and II.

Answers to section B should be written on the answer booklet provided.

For Assessment use only		
Item	Score	Scorer's initials
1		
2		
3		
4		
5		
6		
7		
Total		

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Turn Over

SECTION A

Attempt all items in this section in the spaces provided.

Item One

Mr. Kalema planted maize in a cassava garden at the point of tuber formation. When the maize was flowering, a heavy hail storm hit the garden and destroyed all the crops, breaking all the cassava stems.

After a month, Mr. Kalema was surprised to see the cassava plants sprouting again, but there were no new maize plants re-growing.

Tasks

- (a) Identify the plant structures affected by the hail storm.

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- (b) Explain how the normal functioning of the plants were affected by the hail storm.

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- (c) Give reasons for Mr. Kalema's observations after one month.

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Item Two

Doreen is a P.3 pupil who is very bright in class. However, when she sits on the front row near the chalk board, she cannot see the writings on the chalk board and she complains of pain in her eyes when she strains them to see in the work in her books. The teachers tried to take her to the back of the class, but she was too short to see the chalk board behind other tall learners. They sent her back home to her parents for further management.

Tasks

- (a) Using scientific facts, explain Doreen's problem to her parents.

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- (b) Identify the cause of the problem.

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- (c) Using illustrations, clearly explain to the parents how Doreen's problem can be managed.

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Item Three

Jane was a secondary school girl, studying in a day school near her home. As a result of bad peer groups, she started drinking alcohol and dodging school. One day, during the school's routine pregnancy checks, Jane was found pregnant and so she was sent out of school. She was forced to marry her young boy friend by her parents. However, she continued with her habits and did not attend antenatal care.

Jane and her boyfriend are both dark-skinned. However, she gave birth to an albino child. The boyfriend denied the child and ran away, so Jane started to solely take care of the child.

Tasks

(a) Convince Jane's boyfriend that it is scientifically possible that he is the father of the child.

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(b) What are the likely effects of Jane's lifestyle?

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(c) Advise Jane on how she can improve her living conditions.

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SECTION B

Attempt one item from each of the parts I and II.

PART I

Item four

A chemical factory was established in a swamp which had a flowing river, supporting nearby communities with water and mud fish. The water in the river stream became greenish and there was a lot of growth of water hyacinth (water weed) in the river. The mud fish harvests have greatly dwindled and many community members were diagnosed with respiratory diseases. The community members have recorded serious complaints with the local leaders.

Task

Explain to the local leaders the problems in the community; suggest possible solutions and show why the swamp should be kept in its natural state.

Item five

As a result of a civil war in one of the countries neighbouring Uganda, many people entered the country as refugees. These settled themselves in a game reserve of a boarder district, part of which had a forest reserve. A refugee camp was set up but the area later became too small for the people. There were many cases of wild animals attacking the refugees and the refugee community faced a number of challenges. The local area leadership is very concerned.

Task

Help the refugee community to understand their problems, give advice and sensitize them on the value of conserving the natural environment in the area.

PART II

Item Six

Mr. Mukasa, a sixty-year-old, urinates frequently, has blurred vision and feels thirsty oftenly. When he visited a physiologist, the Doctor recommended for Urinalysis test for proper diagnosis. The clinical laboratory technician obtained specimen solution **P** from Mr. Mukasa, which gave a positive test with Benedict's solution.

Task

Explain how specimen solution **P** is formed inside Mr. Mukasa's body, identify his major metabolic disorder and suggest how he can overcome it.

Item Seven

During his first hospital visit in January, Moses, a five-year-old boy, was found to be having wasted muscles, not physically active, had wounds on his legs and was generally weak. The Doctor recommended that Moses is started on a special diet mainly consisting of millet porridge and milk for some time.

His condition has since then improved and data from the hospital records about his weight is as shown in **Table 1**.

Table 1 shows changes in John's body weight since his first visit to the hospital

Month	Weight (kg)
January	10.9
March	11.8
May	13.5
July	14.8
September	15.7

The normal weight range of boys is shown in **Table 2**

Table 2: shows normal weight range of boys between 2 to 7 years

Age (years)	Weight (kg)
2	8.9 – 15
3	11.9 – 17.9
4	13.4 – 20.4
5	15.2 – 24.4
6	16.9 – 26.5
7	18.6 – 31.5

Task

How was the Doctor's recommendation utilized by Moses' body to help improve his health conditions?

END