NAME:……INDEX NO:……

DEPARTMENT OF BIOLOGY

KCB MOCK EXAMINATIONS, 2019

UGANDA CERTIFICATE OF EDUCATION

BIOLOGY PRACTICAL

PAPER 2

TIME: 2 HOURS

Instructions:

- *Answer **all** questions*
- *Drawing should be done in the spaces provided.*
- *Use sharp pencils for your drawings.*
- *Coloured pencils or crayons should not be used.*

1. You are provided with suspension ***A*** and solution ***B***.

   (a) Carry out the following tests to identify the food substances in solution ***A*** and the effect of solution ***B*** on ***A***.

Table 1

TESTS	OBSERVATION	DEDUCTION
(i) To $1cm^3$ of ***A*** in a test tube add 2 drops of iodine solution.		
(ii) To $1cm^3$ of ***A*** in a test tube add $1cm^3$ of Benedict's solution and boil.		

(iii) To $1cm^3$ of ***A*** in a test tube add $1cm^3$ of dilute sodium hydroxide solution followed by 2 drops of copper sulphate solution.		
(iv) To $1cm^3$ of ***A*** in a test tube add $1cm^3$of ethanol and shake thoroughly. Leave to settle then pour off $1cm^3$ of the mixture into a test tube containing $1cm^3$of distilled water.		
(v) To $1cm^3$ of DCPIP in a test tube add a drop by drop up to 10 drops of solution ***A***		

(b) To $4cm^3$ of suspension ***A*** add $2cm^3$ of solution **B**. Incubate the test tube in a water bath maintained between $35^oC - 40^oC$ for 30 minutes. (you may continue with other work meantime) after 30 minutes carry out the tests in table 2 and record your observations and deductions in the table below.

Table 2

TEST	OBSERVATION	DEDUCTION
To $1cm^3$ of the mixture add 2 drops of iodine solution.		
To $1cm^3$ of the mixture add $1cm^3$ of dilute sodium solution followed by 2 drops of copper sulphate solution.		

(c) Explain the effects of solution ***B*** on solution ***A***. (2mks)

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(d) Suggest with a reason the identity of the active substance in solution **B**.

Identity:……

Reasons:……

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(e) State with a reason, one property of the active substance in solution ***B*** shown in this experiment.

Property:……

Reasons:……

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(f) Explain why the test tube in (b) was incubated in a water bath maintained between $35^oC - 40^oC$ for 30 minutes. (2mks)

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2. You are provided with specimen **K, L** and ***M*** which are from the same animal.

(a) From which part of the animal was each specimen taken?

K:……

L:……

M:……

(b) Give three functions common to specimen ***K,*** **L** and **M** and the feature that enable the specimens to perform their functions. (6mks)

Function	Feature

(c) State three observable differences between specimens **L** and ***M***. (3mks)

Specimen L	Specimen M

(d) State the names of the bone(s) with which specimen ***K*** articulates at both ends (upper and lower ends) and using observable features, suggest the type of joint formed at each end. Bone(s) at upper (anterior) end.

Joint upper end

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Bone(s) at lower (posterior) end

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Joint lower end

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(e) Draw and label specimen ***M***. (5mks)

3. You are provided with specimen ***P*** and ***Q*** which are plant parts.

(a) Giving two reasons, name the part of the plant to which specimens ***P*** and ***Q*** belong. (2mks)

Part of the plant:……

Reasons:……

……

……

(b) Describe the following structures of specimen P and ***Q***. (8mks)

Structure	Specimen P	Specimen Q
Stamens		
Pistil		

(c) (i) State the agent of pollination for specimen ***P***. (1mk)

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(ii) How is specimen ***P*** adapted to being pollinated by the mentioned in c(i) above. (3mks)

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(d) Remove the sepals and stamens from Specimen ***Q***

Draw and label the remaining part of the specimen. (6mks)

END