

NAME:.....INDEX NO:.....

DEPARTMENT OF BIOLOGY
RESOURCE MOCK EXAMINATIONS, 2016
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 $35^\circ\text{C} - 40^\circ\text{C}$ 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.		

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(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 $35^{\circ}C - 40^{\circ}C$ 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

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(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