

NAME: **BIOLOGY PAPER 2 SCORING GUIDE 2025** INDEX NO:

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BIOLOGY PAPER 2

(PRACTICAL)

JULY/AUGUST

MOCK 2025

2 $\frac{1}{2}$ Hours.



MEBU EXAMINATIONS CONSULT

Uganda Certificate Of Education

MOCK ASSESSMENTS 2025

BIOLOGY

x
40

PAPER 2

(PRACTICAL)

TIME: 2 Hrs: 30 Min

INSTRUCTIONS TO CANDIDATES.

This paper consists of two examination items. Answer all the items in the spaces provided.

Drawings should be made in the spaces provided. Use sharp pencils for drawings.

Coloured pencils or crayons should not be used.

No additional sheets of writing papers are to be inserted in the booklet.

ITEM ONE

Mary is a teenage mother of a **10** month old baby, she denied breast feeding her baby at the age of 7 months and started feeding her on cassava and cassava porridge (**solution P**). In recent months, the child has grown thin, reduced weight, has a swollen belly and frequently falls sick. When she took her child to the clinic, the doctor diagnosed the child with a mul-nutritional disease and decided to feed the child on solution R. The child got better in few weeks and has now regained weight and looks healthier. It has been observed that very many of teenage mothers in the same village have similar problems which need to be addressed.

Task:

Using the reagents available, carry out an investigation on solution **P** and **R** hence compile a report you will submit to the **LC1** chairperson to use in addressing the problem faced by the teenage mothers in the community.

Your report should include: Aim, variables, hypothesis, procedures, and analysis of data, conclusion and recommendations.

Aim: *An experiment to investigate the food nutrients present in solution P and R so as to explain why Mary's baby had grown thin, reduced in weight and frequently fall sick and to help other teenage mothers to solve the similar problem.*

Not if reason is not given, A=3.

Hypothesis: Solution **R** contains proteins and vitamin C while solution **P** contains starch.

Or

Solution **R** has more nutrients than **P**

Note: if one solution is mentioned, H=5

Variables.

Dependent Variable: Colour Changes. ✓ V=2

Independent Variable: Solution **R** and **P**. ✓ V=2

Reagents. **Anyone=2**

$$V=6$$

Control Variable: Volume of reagents. ✓ $V=2$

Volume of solution **R** and **P**

Anyone=2

Note: all variables just listed=4

Procedure:

Test	Solution	Observation	Deduction
Any Carbohydrate Starch Test To 1cm ³ of test solution in a clean test tube, add 2 drops/1cm ³ of iodine solution.	R	The turbid solution turns brown/yellow solution.	Starch Absent
	P	The turbid solution turns to black solution or black specks observed.	Starch Present
Protein test To 1cm ³ of the test solution in a clean test tube, add 1cm ³ of dilute sodium hydroxide solution followed by 3 drops of copper (II) sulphate solution.	R	The turbid solution turns to purple solution.	Proteins present
	P	The turbid solution turns to blue solution.	Proteins absent
C=4		D=2	AR=2

Mary's food that she gave to the child (**Solution P**) only contained starch which was used to produce energy but lacked proteins which could help him in body building of the body hence leading to the symptoms the baby showed.

Mary and other teenage mothers should feed their children on solution **R** because it contains proteins and non-reducing sugars that could help in body building and production of energy respectively to aid in growth. ✓
AR=3

For table: if $C_p=2$, $C_v=5$, $C_m=7$, then $C=4$, If $C_p=2$, C_v less than 1 and c_m less than 7, then $c=3$.

$D=2$ if more than 2 correct observations are given, if less than 2, $D=1$ same to the deduction.

AR=3, if importance of proteins and starch is stated plus the conclusion.

ITEM TWO.

Mr. Nelson is a farmer who has just hired a piece of land in Okut, Northern Uganda. He would wish to plant some crops in the garden though it's already a dry season and most of the planting materials are very expensive. However the two planting materials **K** and **N** are available to him. He wants to know which of the two plant materials he can plant during such a moment.

Task:

- a) Help Mr. Nelson to identify the suitable planting material in the dry season.

✓ I=2
Specimen K is a suitable planting material that Mr. Nelson can use.

- b) Explain to Mr. Nelson why you decided to choose the planting material in (a) above.

- **It is swollen and can store water that can be used during growth in dry conditions.** ✓
- **It has buds that can grow into new plants faster than specimen N which would involve seed germination.** ✓
- **It has internode where adventitious roots can develop faster and anchor the plant into the soil firmly.** ✓
- **It is also covered with dry leaves that would prevent desiccation of the plant.** ✓

Any2 S=4, only 2 correct features S=2

- c) Draw the material identified in (a) above

✓ DR

Drawing showing specimen K

