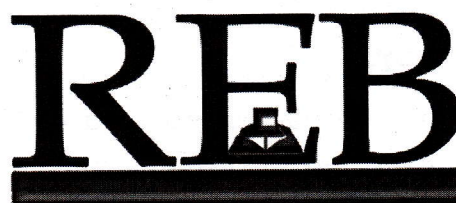


Biology III

013

01/12/2017 08.30 AM - 11.30 AM



Rwanda Education Board

ADVANCED LEVEL NATIONAL EXAMINATIONS, 2017

SUBJECT: BIOLOGY

PAPER III: PRACTICAL BIOLOGY

COMBINATIONS: - BIOLOGY-CHEMISTRY-GEOGRAPHY (BCG)

- MATHEMATICS-CHEMISTRY-BIOLOGY (MCB)

- PHYSICS-CHEMISTRY-BIOLOGY (PCB)

DURATION: 1 Hour 30 minutes

INSTRUCTIONS:

- 1) Write your names and index number on the answer **booklet cover in the space provided** as written on your registration form, and **DO NOT** write your names and index number on additional answer sheets of paper if provided.
- 2) Do not open this question paper until you are told to do so.
- 3) This paper consists of only **two questions** which are **compulsory**.
- 4) **All** answers should be written in the spaces provided on the question paper.
- 5) Use only a **blue** or **black** pen.

ALL QUESTIONS ARE COMPULSORY.

(25 marks)

REQUIREMENTS

Each candidate should be provided with:

1. Hibiscus flower (fleshly collected)
2. Copper (II) sulphate (1%), 5cm³
3. Sodium hydroxide (10%), 5cm³
4. Razor blade (1 razor blade to be shared between 2 candidates)
5. Test tubes (2 for each candidate)
6. Milk (**Solution Y**), 10cm³

1) You are provided with specimen Q which is a plant tissue. Observe the specimen provided and answer the questions that follow.

(a) (i) Name the agent of pollination of specimen Q.

(1 mark)

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(ii) Suggest four reasons for your answer given above.

(4 marks)

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(b) Suggest with reasons the type of pollination of specimen Q.

(i) Type of pollination.

(1 mark)

(ii) Reasons.

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..... **(4marks)**

(c) Using a razor blade, cut specimen Q longitudinally. Make a labelled drawing of the longitudinal section of specimen Q. **(10marks)**

2) You are provided with the following reagents and apparatus.

- Copper (II) sulphate
- Sodium hydroxide
- Milk (labelled solution Y)
- Test tubes.

You are required to carry out biochemical tests to determine the chemical composition in solution Y.

Indicate your procedure, observations and conclusions. **(5marks)**