Biology III
013
18/11/ 2016 8.30 am -11.30 am

Rwanda Education Board

ADVANCED LEVEL NATIONAL EXAMINATIONS 2016

SUBJECT: BIOLOGY

PAPER III: PRACTICAL BIOLOGY

COMBINATIONS:
- **PHYSICS-CHEMISTRY-BIOLOGY (PCB)**
- **MATHS-CHEMISTRY-BIOLOGY (MCB)**
- **BIOLOGY-CHEMISTRY-GEOGRAPHY (BCG)**

DURATION: 1Hour 30minutes

INSTRUCTIONS:

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

1) **Each candidate should be provided with:**

- Potato tuber
- Hydrogen Peroxide
- Test tubes
- Mortar and Pestle
- Scalpel
- Labels

Procedure

(i) Label two test tubes A and B.
(ii) Peel the potato then cut it into small pieces.
(iii) Put one piece of potato in test tube A.

(a) Add $5cm^3$ of hydrogen peroxide into test tube A and record your observation.

(b) Crush potato tubes in a mortar and put in test tube B. Add $5cm^3$ of hydrogen peroxide and record your observation.

(c) Explain your observations in each case of 1a) and 1b) above.

d) What investigation have you carried out? **(10marks)**

2) You are provided with a test sample which is suspected to be a protein in solid form. Suggest how you can carry out a practical test to confirm that the sample is a protein. **(5marks)**

3) You are provided with Specimen Y which is a plant leaf. Examine the specimen carefully and then:

a) Draw a well labeled diagram of Y. **(8marks)**

b) Name the type of the leaf in 3a) above. **(2marks)**