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)

(ii) Suggest four reasons for your answer given above. (4 marks)

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

(i) Type of pollination. (1 mark)

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

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.