BIOLOGY PAPER 3
FORM 3
END TERM 2 2024

MARKING SCHEME

1. Study the photographs below and answer the questions that follow.

SPECIMEN Q **SPECIMEN R**

a) The two specimen belong to the same Phylum. Giving **two** reasons, name the phylum of the specimen. (3 marks)

i) Phylum **arthropoda**

ii) Reasons

- **segmented body**
- **jointed appendages**
- **prescence of exoskeleton**

b i) Name the **class** to which the specimen belong. (1mark)

class insecta

ii) State **three** characteristic features common to both specimens that support youranswer.

(3 marks)

- **segmented body**
- **jointed appendages**
- **prescence of exoskeleton**

c) Based on observation from the photos, state how the mouthparts of specimen **Q** and **R** are adapted to their functions. (2 marks)Specimen **Q**

has proboscis and stlyle for sucking nectar

Specimen **R**

Small mandibles for chewing and biting

ii) Citing visible features, state **two** modes of locomotion for specimen **Q**.

(2 marks)

wings
limbs

2. a) Starch√1
   b) Diffusion √1
   c) Iodine molecules are highly concentrated; moves into the Visking tubing by diffusion; reacting with solution x; thus blue-black colour observed in the Visking tubing; confirming x to be starch;
   d)

	Procedure	Observation	Conclusion
Reducing sugar	2 ml of solution x in a test tube, add equal volume of Benedicts' Solution and boil (Accept specified number of	Blue colour of Benedicts' Solution retained.	Reducing sugar absent.

	drops of reagent).		
Non-reducing sugar	2 ml of x in a test tube, add 5 drops of dilute HCl, warm over hot waterbath, remove cool, and $NaHCO_3$ solution dropwise, shaking after every drop until fizzling stops. Add 5 drops of Benedicts' solution and boil.	Colour changes from blue, green, yellow and finally orange. NB: The sequence of the colour changes must be correct.	Non – reducing sugar present.
Protein	2 ml of x in a test tube, add 5 drops of NaOH solution and shake, add 5 drops of $CuSO_4$ solution and shake.	Purple/violet colour observed.	Protein present.

3. Study the photographs below and answer the questions that follow.

Q

K

a i) Suggest the agent of pollination for specimen **Q**. (1 mark)

insects

ii) Give **two** adaptations of the flower that support your answer in a (i) above.

(2 marks)

Brightly coloured

Funnel shaped petals

Small bract

State **five** differences between specimen Q and K.(5 marks)

Specimen Q	Specimen K
Brightly coloured	**dull**

smooth	**hairy**
red	**Purple**
Large and conspicuous	**Small and inconspicuous**
Many anthers	**Few anthers**

b) On the photograph of specimen K, label the following:- (2 marks)

i) Stigma

ii) Anther