

**353 Biology Paper 3 (231/3)**

**L** You are provided with a piece of specimen **N** and the following reagents:

- Dilute hydrochloric acid
- Dilute sodium hydroxide
- Dilute hydrogen peroxide
- Water

You have also been provided with the following apparatus:

- Three test tubes
- 10 ml measuring cylinder
- Scalpel

**Procedure**

- (i) Label the test tubes **1, 2** and **3**.
- (ii) Macerate (chop into tiny pieces) half of specimen **N**.
- (iii) Place equal amounts of the macerated specimen into test tubes **1** and **2**.
- (iv) Cut the remaining half of the specimen into two equal pieces.
- (v) Place one piece into test tube **3** and reserve the remaining piece.
- (vi) Add about 2 cm<sup>3</sup> of dilute hydrochloric acid into test tube **1**, add about 2 cm<sup>3</sup> of sodium hydroxide into each of test tubes **2** and **3**.
- (vii) Add about 5 cm<sup>3</sup> of hydrogen peroxide into each of the three test tubes, **1, 2** and **3**.

(a) Observe the amount of effervescence in each test tube and complete the table below.

Test tube	Contents	Amount of effervescence observed	Explanation
<b>1</b>			
<b>2</b>			
<b>3</b>			

(10 marks)

- (b) Use the reagents provided to test for the food substance present in the piece of specimen N reserved from (a). Observe and record in the table below.

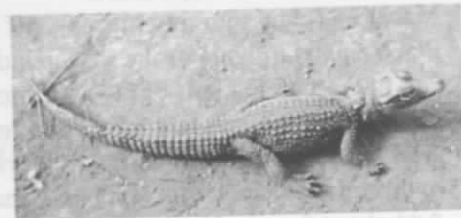
Procedure	Observation	Conclusion

(3 marks)

2. You are provided with photographs E, F, K and H, together with specimens G, J, L and M.



E



K



F



H

- Using observable features in the photographs and specimens provided:
- (a) Place with a reason, each of the following organisms in their respective Kingdom, Division or Phylum.

- (i) G

(2 marks)

Division .....

Reason .....

- (ii) **E** (2 marks)
- Kingdom .....
- Reason .....
- (iii) **M** (2 marks)
- Division .....
- Reason .....
- (iv) **H** (2 marks)
- Phylum .....
- Reason .....
- (b) State **two** features in the following organisms that make them to be placed in different Classes:
- (i) **F** and **K** (2 marks)
- (ii) **J** and **M** (2 marks)
- (c) Make a labelled diagram of specimen **L**. (1 mark)
- (d) Explain the difference in the mode of reproduction exhibited by **E** and **J**. (1 mark)

3. You are provided with a specimen labelled **P** on a tile.

- (a) (i) Name the Class to which the specimen belongs. (1 mark)
- (ii) Give **three** reasons for your answer in (a)(i) above. (3 marks)
- (b) State **three** ways by which the organism is adapted to movement in its habitat. (3 marks)
- (c) State **two** functions of the part labelled **Q**. (2 marks)
- (d) Carefully lift the part labelled **Q** and observe the underlying structure.
- (i) State the **main** function of the underlying structure observed. (1 mark)
- (ii) State **three** ways by which the structure is adapted to its function. (3 marks)