

231/2
BIOLOGY
Paper 2
(PRACTICAL)
Oct./Nov. 2002
2 ¼ hours

1 You are provided with specimens labelled D₁, D₂, D₃ and D₄. Examine them.

(a) Draw and label specimens D₁ and D₂.

(7 marks)

Magnification (1 mark)

D₂

Magnification (1 mark)

(b) Giving reasons, state the agent or method of dispersal of the specimens. (8 marks)

Specimen	Agent or method of dispersal	Reason(s)
D ₁		
D ₂		
D ₃		
D ₄		

(c) State the types of gynoecium and placentation of specimen D₄. (2 marks)

Type of: (i) gynoecium

(ii) placentation.

2 You are provided with olive oil, liquids labelled L₁ and L₂ and an Irish potato.
Label two test tubes A and B.

Place 2cm³ of water into each test tube.

Add 8 drops of olive oil into each test tube.

To test tube labelled A, add 8 drops of liquid L₁.

Shake both test tubes. Allow to stand for 2 minutes.

(a) (i) Record your observations. (3 marks)

Test tube A

Test tube B

(ii) Name the process that has taken place in test tube A. (1 mark)

(iii) State the significance of the process named in (a)(ii) above. (1 mark)

(iv) Name the:
digestive juice in humans that has the same effect on oil as liquid L₁. (1 mark)

region of alimentary canal into which the juice is secreted. (1 mark)

(b) Label two test tubes C and D.
Place 2cm³ of liquid L₂ into each. Add a drop of iodine into each test tube.

(i) Record your observation. (1 mark)

(ii) Suggest the identity of L₂. (1 mark)

Cut out a cube whose sides are 1cm from the Irish potato provided. Crush the cube to obtain a paste. Place the paste in test tube labelled C. Leave the set up for at least 30 minutes.

(iii) Record your observation. (2 marks)

(iv) Account for the results in (b)(iii) above. (4 marks)

- (c) (i) Cut out another cube whose sides are 1cm from the Irish potato. Crush the cube.
Place the crushed paste into a test tube. Carry out food test with the reagent provided.
Record the procedure and results.

Procedure (1 mark)

Results. (1 mark)

(ii) Account for the results in (c)(i) above. (3 marks)

3 You are provided with specimens labelled Q and R. Examine them.

(a) Giving reasons state the phylum of the specimens. (4 marks)

Phylum

Reasons (i)

(ii)

(iii)

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

(ii) State the features common to both specimens that are characteristic of the class mentioned in (b)(i) above. (3 marks)

(c) State the differences between specimens Q and R. (4 marks)

(d) Other than feeding, how are the mouth parts of specimens Q and R adapted to their functions? (2 marks)

Specimen Q

Specimen R

(e) State the difference and functions of the wings of specimen Q. (3 marks)

Difference

Functions

(f) Remove one leg from specimen R. Draw and label it. (4 marks)