

1. Dissect specimen S_1 in the usual way to fully display the viscera general. Pin out the alimentary canal to your right hand side.

(a) Make a neat well labelled diagram of your dissection.

Leave your dissection well displayed for assessment.

(b) Identify the sex of specimen S_1 . Give two reasons to support your answer.

(c) How is specimen S_1 adapted to its mode of life?

2. You are provided with solutions S_2 and S_3 .

(a) Using the reagents provided, carry out a biochemical test to identify the food substances present in solutions S_2 and S_3 . Tabulate your work as shown in Table 1.

Table 1

Food tested	Procedure	Observation	Inference

(b) State the role played by Sodium hydroxide and Dilute hydrochloric acid in the biochemical experiment.

3. You have been provided with specimens G_3 , G_4 , G_5 , G_6 and G_7 .

(a) Identify specimens G_3 , G_4 , G_5 and G_7 by their common names.

(b) State the observable differences between specimens G_4 and G_7 at class level.

(c) State two economic importance of specimen G_4 and G_7 .

(d) Classify specimen G_7 to class level and state its habitat.

(e) By listing the number of the statements from the dichotomous key below identify the order of each specimen G_3 , G_4 , G_5 and G_6 .

Key to some Insect Orders

- 1 (a) Body dorsoventrally flattened----- Dictyoptera
 (b) Body not dorsoventrally flattened----- go to 2
- 2 (a) Body covered with hair----- Hymenoptera
 (b) Body not covered with hair ----- go to 3
- 3 (a) Number of obvious wing (2) two ----- Diptera
 (b) Number of obvious wing (4) four ----- go to 4
- 4 (a) Hardened outer wings, soft inner wings and
 membranous----- Coleoptera
 (b) Outer and inner wings both soft and membranous----- go to 5
- 5 (a) Hind limbs larger than the rest ----- Orthoptera
 (b) Limbs all of the same size----- Lepidoptera