

BIOLOGY

Paper – 2

(PRACTICAL)

Three hours and a quarter

(The first 15 minutes of the examination are for reading the paper only.

Candidates will NOT be allowed to write or start working on the apparatus during this time).

All workings, including rough work, should be done on the same sheet as, and adjacent to, the rest of the answer.

The intended marks for questions or parts of questions are given in brackets [].

Question 1.

[6]

Examine the given specimens **D-41** and **D-42** provided and answer the following:

- (a) Describe the flower in semi technical terms (details of the individual whorls not required).
- (b) Cut a longitudinal section of the specimen **D-42** and draw a well labeled diagram. *Show the L.S of the specimen to the Visiting Examiner.*
- (c) Carefully remove the accessory whorls of both the specimens and observe their androecium and record the following features in the tabular form as given below:

Features	D-41	D-42
1. Number		
2. Relation to each other		
3. Relation to other floral whorls		
4. Attachment of anther		

- (d) Next remove the androecium from the thalamus and observe the parts of gynoecium and record the following features in the tabular form as given below:

Features	D-41	D-42
1. Nature of stigma		
2. Position of ovary to other whorl		
3. Number of carpels		
4. Type of placentation		

- (e) Cut the ovaries of **D-41** and **D-42** and draw a neat labeled diagram in each case.
- (f) Write the floral formula for each specimen.
- (g) Name the families to which the two specimens belong to and give *two* reasons each to support your answer.
- (h) Mention any *one* economically important plant of each family.

Question 2.

[5]

Set-up an experiment to show that **D – 43** produces oxygen during the process of photosynthesis.

- (a) Collect the apparatus required to set-up the experiment and make a list of them in your answer script.
- (b) *Show your set-up to the Visiting Examiner.* Draw a neat labeled diagram of your experimental set-up.
- (c) Give *one* test to prove that the gas produced is oxygen.
- (d) Name the source of oxygen in photosynthesis.
- (e) Name *two* factors which play an important role in photosynthesis.

Question 3.

Make a temporary stained mount of specimen **D-44**. Follow the procedure given below:

- (a) With the help of a razor blade cut a section of the specimen **D-44** and mount it on a slide after proper staining. *Show it to the Visiting Examiner.*
- (b) Draw a neat labeled diagram of the mount as seen under the low power microscope.
- (c) Which stain did you use?
- (d) Identify the specimen. Give *two* points of identification to support your answer.

Question 4.

[5]

Identify the given specimens **A** to **E** and give two reasons to support your answer in each case. Draw a neat labeled diagram for each specimen.
