NORADIN SECONDARY SCHOOL 2

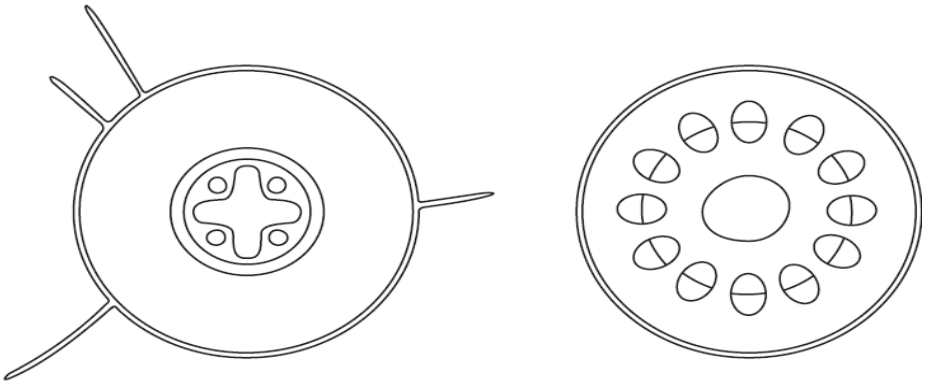
F3 Biology Assignment

Chapter 1: Flowering plants

Name: …… Class: ……

DO ALL THE FOLLOWING QUESTIONS

1. Figure below shows transverse sections of a root and a stem.

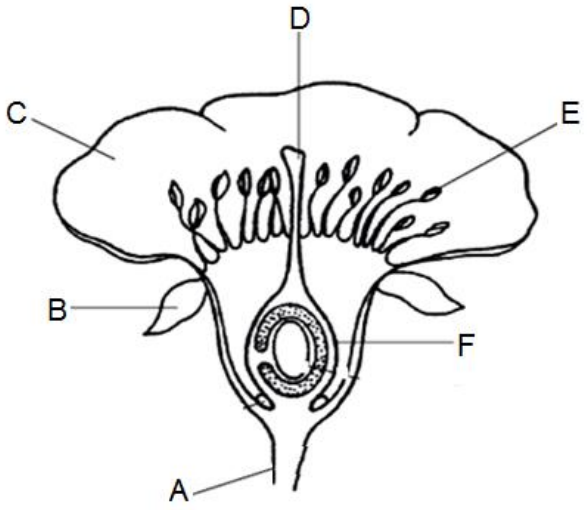


   a. **(i)** Shade in an area in the transverse section of the root where there are cells specialised for the transport of water.
      (ii) Shade in an area in the transverse section of the stem where there are cells specialised for the transport of sucrose.
   b. Suggest why the vascular bundles in the stem are situated towards the outside.
   c. Describe the process by which water passes from the soil into the root hairs.
   d. Explain how water passes from the stem to the air surrounding a leaf.
2. Fill the terms below to the follow functions.

Stem **leaf** **root** **apical bud** **lateral bud**

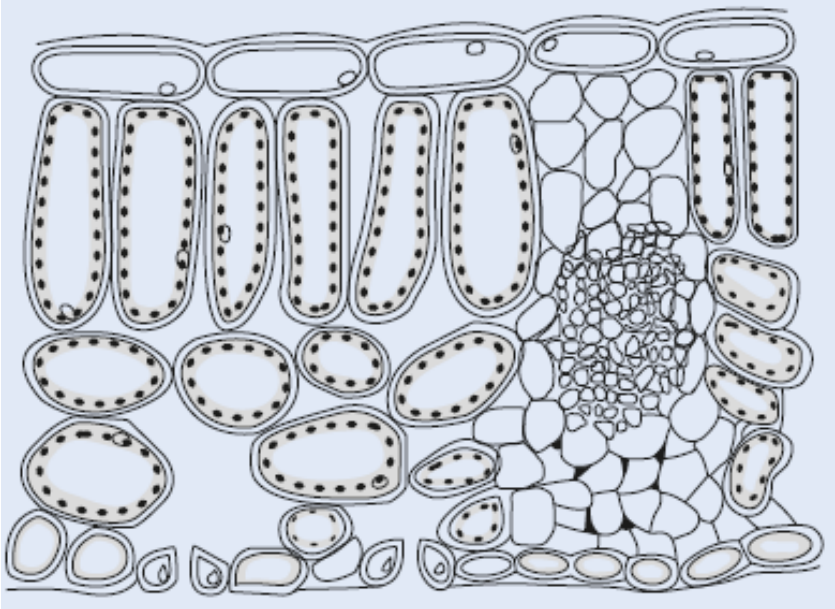
   a. Produces carbohydrates …….....
   b. carries water to leaves ……..
   c. Absorbs sunlight ……...…
   d. Continues growth in height ……..
   e. Absorbs mineral salts ……...……
   f. Makes branches …….
   g. Anchors plant in soil …….
   h. Conducts food to roots …….…….
   i. Evaporates water ……..
   j. Produces new leaves …….
   k. Spaces out leaves ……..……
   l. Produces flowers …..……...
   m. Absorbs carbon dioxide …..……..

3. The diagram shows a section through a flower.



   a. Is this male, female or hermaphrodite flower? Explain your answer
   b. Name the parts A to F.
   c. State a function of the part labelled C.
   d. In which part of the flower is pollen produced?
   e. In which part of a flower does a seed form?
   f. Name a part of a flower that may develop into a fruit.
   g. Some flowers have nectaries. How are these flowers pollinated? Explain your answer.

4. The diagram shows a section through a leaf.



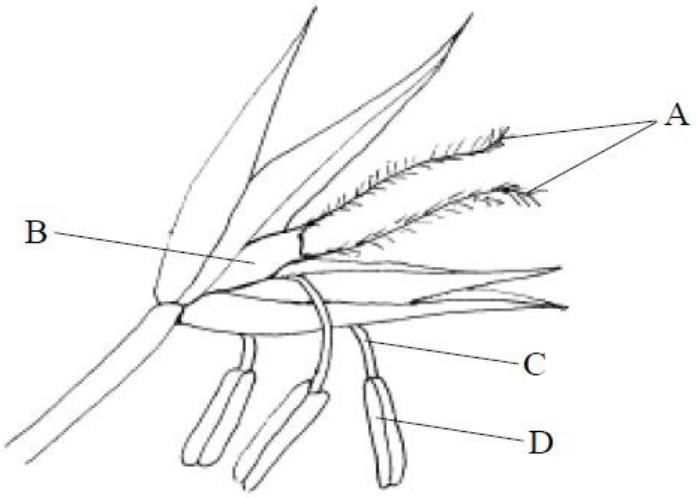
   a. On the diagram, use label lines to show a stoma, the cuticle, vascular bundle, palisade layer, spongy layer and epidermis.
   b. The upper layers of a leaf are transparent. Suggest an advantage to a plant of this feature.
   c. The cuticle is made of a waxy material. Suggest an advantage to this feature.
   d. State **two** functions of vascular bundles in leaves.
   e. Write any three functions of leaves.

5. Ahmed carried out three experiments. He used the same plant, but changed one condition in each experiment. The table shows the percentage change in rate of water loss for each condition when compared to Ahmed's original experiment.

Condition	Percentage change in rate of water loss (%)
wind increased	+23
light intensity reduced	–40
half of the leaves removed	–48

a. Name the process by which a plant loses water.
b. Explain the change in water loss when
   (i) wind was increased
   (ii) light intensity was reduced
   (iii) half of the leaves were removed.
c. Suggest how Ahmed could increase the wind around the leafy shoot.

6. The diagram below shows a flower of a typical member of the grass family.



a. Name the parts A to D.
b. (i) Name the agent which pollinates this flower.
   (ii) State three features shown in the diagram which support your answer.
c. State **FIVE** ways in which the structure of a wind-pollinated flower would differ from the lily flower shown in the diagram.

END