



INDIAN SCHOOL AL WADI AL KABIR

Class: XII	Department: SCIENCE 2020 -21 Subject : Biology	Date of submission: 30.04.2020
Worksheet No: 02	MORPHOLOGY OF FLOWERING PLANTS	Note: A4 FILE FORMAT
NAME OF THE STUDENT	CLASS & SEC:	ROLL NO.

MCQs (One mark question)

1. The edible part of a coconut is

- a. Cotyledon
- b. Seed
- c. Pericarp
- d. Endosperm

2. _____ are the non-essential parts of a flower

- a. Androecium and gynoecium
- b. Sepals and carpels
- c. Sepals and petals
- d. Sepals and gynoecium

3. The stem modified into flat, green organs performing the function of leaves

- a. Phyllodes
- b. Cladodes
- c. Phylloclades
- d. Scales

4. Leaves become modified into spines in

- a. Opuntia
- b. Onion
- c. Silk cotton
- d. Pea

5. Veins of the leaves are useful for

- a. Mechanical support
- b. Transport of water and minerals
- c. Transport of organic nutrients
- d. All of the above

6. _____ is an edible underground stem

- a. Potato
- b. Groundnut
- c. Sweet potato
- d. Carrot

Answer Key

1-b	2-c	3-c	4-a	5-d	6-a
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ONE MARK QUESTIONS

Q1. What are adventitious roots?

A.1The roots developed from different parts of the plant other than radicle

Q.2.Which is the edible part of the ginger plant?

A.2. Rhizome.

Q.3.What is Venation?

A.4.Venation is the arrangement of veins in a leaf of a plant.

Q.5.Which is the edible part in onion plant?

A.5.Fleshy scale leaves.

Q.6. How do the roots of the plants growing in swamps and marshes obtain their oxygen?

A.6. The roots of the plants growing in swamps and marshes grow vertically upwards and respire (pneumatophores).They become negatively geotropic

Q.7. Why is the maize grain considered as a fruit and not as a seed?

A.7. The maize grain is a ripened ovary with a ripened ovule. That is why it is considered a fruit and not as a seed.

TWO MARKS QUESTIONS

Q.1. Differentiate between pinnately compound leaf and palmately compound leaf?

A.1.

Pinnately Compound Leaf	Palmately Compound Leaf
The midrib of the leaves is present on a common axis called the rachis.	Leaflets are attached at the tip of the petiole.

Q.2. Which two roots develop from different parts of the angiosperm plant other than the radicle?

A.2. Prop roots of the banyan tree- Develop from lower nodes of the stem of the tree Stilt roots in sugarcane- Arise from lower nodes of the stem and penetrate the soil. Both the roots are meant to provide support.

Q.3. What role do the roots of the aquatic plants play?

A.3. The roots are green and branched, this provides an increased photosynthetic area for the plants. They get inflated because the air projects out of the water, which helps the plant in floating and gaseous exchange.

Q.4. Ginger grows underground like any other root. Then why is it considered a stem and not root?

A.4. Ginger is an underground modification of stem which bears internodes, nodes, buds and scaly leaves that give rise to aerial shoots. The lower surface of the nodes gives rise to adventitious roots. Also, it does not play any role in anchorage and absorption. It only serves as a reservoir to store food. This proves that ginger is a stem, not a root.

Q.5. Mention the role of cotyledons and endosperm in seed germination.

A.5. The cotyledons and endosperm store food material. The seed imbibes water and activates the enzyme. These enzymes hydrolyze the reserve food material and provide it to the germinating seed

THREE MARKS QUESTIONS

Q.1. Explain different types of phyllotaxy with suitable examples.

A.1. The pattern in which the leaves are arranged on the stem is known as phyllotaxy. These are of three types:

- **Alternate Phyllotaxy-** The leaf arises from each node in an alternate manner. For eg., China rose, sunflower.
- **Opposite Phyllotaxy-** The leaves arising at each node lie opposite to each other. For eg., Calotropis
- **Whorled Phyllotaxy-** More than two leaves arise at each node and form a whorl. For eg., Alstonia

Q.2. Differentiate between the roots of aquatic plants and terrestrial plants.

A.2.

Roots of aquatic plants	Roots of terrestrial plants
Roots may or may not be present.	Roots are well-developed.
Vascular bundles are poorly developed.	Vascular bundles are well developed.
They are modified to perform photosynthesis, food storage and gaseous exchange.	Anchors the plant firmly in the soil, and absorbs nutrients from the soil.

Q.3. Describe the modifications of the stem. Give 3 examples for the same.

A.3. Modifications of the stem are as follows:

- **Stem Tendrils-** These may be branched with scaly leaves. Eg., Passiflora, Antogonon
- **Stem Thorns-** These are sharp needle-like structures that are formed to reduce transpiration and also act as a defence. For eg., Citrus, Pomegranate
- **Phylloclades-** These are green, flattened, succulent, leaf-shaped structures that perform photosynthesis. They possess indefinite growth. For eg., Opuntia, Euphorbia soyleana

Q.4. Name the floral parts of an angiosperm. Also, mention their arrangements.

A.4. Following are the floral parts of a typical angiosperm:

- **Calyx-** Outermost whorl of the flower. It comprises of sepals. They are usually green and protective.
- **Corolla-** It comprises of petals. These are bright in colour.
- **Androecium-** It is made up of stamens which is the male reproductive organ. It consists of a filament and anther.
- **Gynoecium-** It is the female reproductive part of the flower and is made up of one or more carpels. Each carpel comprises of stigma, style, and ovary.

FIVE MARKS QUESTIONS

Q.1.What is aestivation, Explain the types with diagrammatic representation and any one example.

Q.2.What is Placentation, Explain the types with diagrammatic representation and any one example.

(For answer refer to the class notes)

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