

**BIOLOGY**  
**MORPHOLOGY OF FLOWERING PLANTS**  
**WORK SHEET**

**Read the passage carefully and answer the Questions that follows**

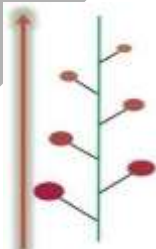
**CASE STUDY: FLOWER & INFLORESCENCE.**

A flower is a modified shoot wherein the shoot apical meristem changes to floral meristem. The apex produces different kinds of floral appendages laterally at successive nodes instead of leaves. When a shoot tip transforms into a flower, it is always solitary. The arrangement of flowers on the floral axis is termed as inflorescence.

Depending on whether the apex gets developed into a flower or continues to grow, two major types of inflorescences are defined – racemose and cymose. In racemose type of inflorescences, the main axis continues to grow, the flowers are borne laterally in an acropetal succession. In cymose type of inflorescence the main axis terminates in a flower, hence is limited in growth. The flowers are borne in a basipetal order.

The flower is the reproductive unit in the angiosperms. It is meant for sexual reproduction. A typical flower has four different kinds of whorls arranged successively on the swollen end of the stalk or pedicel, called thalamus or receptacle.

1. Identify the type of inflorescence in the figure given below.



- a) Racemose
- b) Cymose
- c) Basipetal
- d) Solitary

2. The main function of the flower is

- a) To produce nectar
- b) Vegetative growth
- c) Sexual reproduction
- d) Aesthetic beauty.

3. The stage on which the flower is placed is called the

- a) Pedicel
- b) Receptacle
- c) Calyx
- d) Stigma

4. The accessory whorls that are indirectly helping in the function of reproduction are

- a) Corolla and Calyx
- b) Androecium-filament and anther
- c) Gynoecium-ovary, style and stigma
- d) Anther and Ovary

5. All incomplete flowers are unisexual

- a) True
- b) False

**MCQs (One-mark question)**

1. \_\_\_\_\_ are the non-essential parts of a flower

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

2. In racemose, flowers are arranged in:

- a. Acropetal order
- b. Centrifugal order
- c. Centripetal order

- d. Basipetal order
3. Axis of inflorescence is:
- Pedicel
  - Peduncle
  - Petiole
  - All
4. Diadelphous condition is related to:
- Androecium
  - Gynoecium
  - Inflorescence
  - All
5. Androecium is a whorl of:
- Anthers
  - Stamens
  - Filaments
  - Tepals
6. Syncarpous gynoecium has two or more:
- Free carpels
  - Fused carpels
  - Free ovaries
  - All
7. A typical lower with superior ovary and other floral part inferior is called:
- Polygamous
  - Hypogynous
  - Perigynous
  - Epigynous
8. Arrangement of ovules within the ovary is called
- Aestivation
  - Placentation
  - Both 1 and 2
  - None
9. When gynoecium is present in the top most position of thalamus, the ovary is known as:
- Inferior
  - Half Inferior
  - Half Superior
  - Superior
10. Placentation in Solanaceae is:
- Parietal

- b. Marginal
- c. Axile
- d. Basal

11. Keel is the characteristic features of:

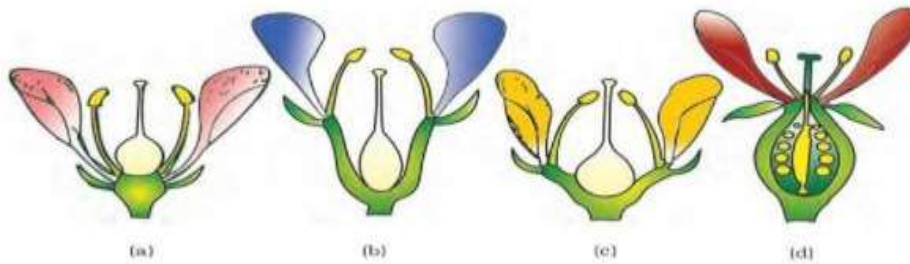
- a. Tulip
- b. Peas and beans
- c. Aloe
- d. Tomato

12. The tissue which attaches the ovules inside the ovary is:

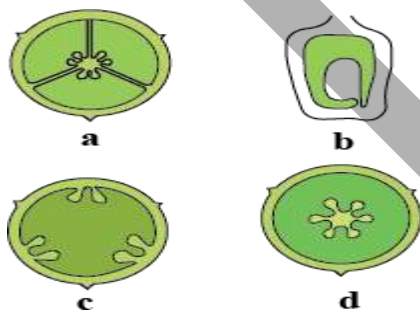
- a. Funicle
- b. Hilum
- c. Placenta
- d. Chalaza

### TWO MARK QUESTIONS

1. Identify the position of the floral parts on the thalamus as shown in the diagram below.



2. Identify the types of placentation as shown in the diagram below.



3. Differentiate between

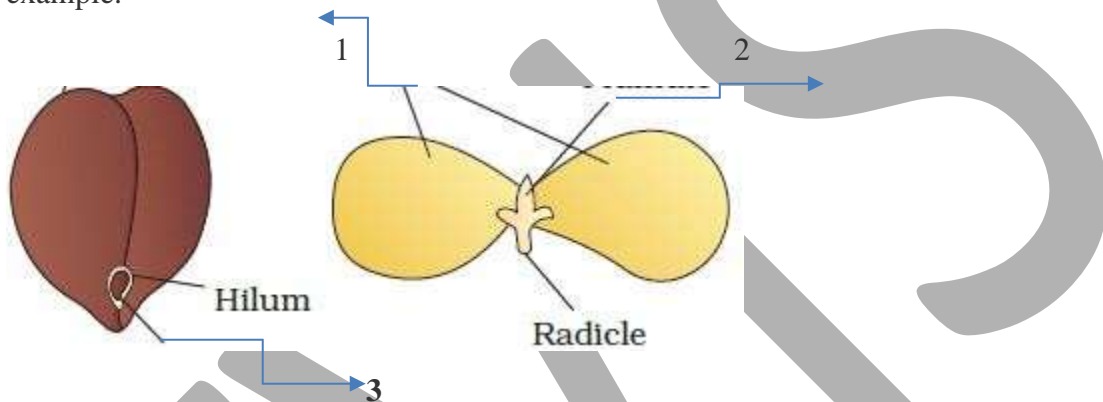
- a) Reticulate and parallel venation
- b) Simple and compound leaves
- c) Pinnately compound and palmately compound leaves

**THREE MARKS QUESTION**

1. Name the floral parts of an angiosperm. Also, mention their arrangements.
2. With the help of a diagram show the different regions of the root tip.
3. Briefly describe any three root modifications with one example each.
4. Taking example of a mango and a coconut fruit, show the different parts of a fruit

**FIVE MARKS QUESTIONS**

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



- 3.a) The diagrams given above represent the structure of dicotyledonous seed, Identify the parts labelled 1,2,3 and state their functions.
- b) How is an endosperm formed, State its significance.

**Answer key (MCQs)**

1-c	2-a	3-b	4-a	5-b	6-b
7-b	8-b	9-d	10-c	11-b	12-c