The Flower

Question Answer Set

Class 9
DRC BIO

Progress Check

Question 1

Mention if the following statements are true (T) or false (F)

1. Flowers can be complete or incomplete.
2. A flower typically has six floral whorls.
3. Bracts are usually green, but sometimes large and colourful.
4. Nasturtium has nectaries.
5. Stamens and carpels are the male and female parts.
6. The prefix "gamo-" is used whenever any of the floral whorls are fused.
7. Stigma may be simple or divided into two or more lobes.
8. Papaya is monoecious plant.

Answer

1. True
2. False
   Corrected statement — A flower typically has four floral Whorls.
3. True
4. True
5. True
6. True
7. True
8. False
   Corrected statement — Papaya is dioecious plant.

Multiple Choice Type

Question 1

Bougainvillea flower has

1. Large sepals
2. Large nectary
3. Large colourful petals
4. Large colourful bracts

Answer

Large colourful bracts

Reason — In Bougainvillea, the flower arises in the axil of bracts, which become colourful.

Question 2

A flower is said to be complete when:

1. It has the corolla and calyx
2. It has the corolla and gynoecium
3. It has the androecium and gynoecium
4. It has all the four whorls

Answer

It has all the four whorls

Reason — A flower with all the four whorls present, is known as complete flower.

Question 3

The part of the flower that gives rise to the fruit is

1. Sepals
2. Petals
3. Ovary
4. Stamens

Answer

Ovary

Reason — Ovary is the swollen basal portion of the gynoecium that develop into fruit.

Question 4

The part of the flower that gives rise to the seed is

1. Ovary
2. Placenta
3. Ovule
4. Pollen grain

Answer

Ovule

Reason — Ovule grows to form seed.

Question 5

The essential whorls of the flower are the

1. Calyx and Corolla
2. Stamen and ovary
3. Calyx and epicalyx
4. Androecium and gynoecium

Answer

Androecium and gynoecium

Reason — The essential whorls of the flower are those that are directly concerned with reproduction. Androecium and gynoecium are the male and female reproductive parts of the flower, respectively.

Question 6

Floral stalk is technically termed as :

1. Petiole
2. Peduncle
3. Pedicel

4. Funicle

Answer

Pedicel

Reason — Stalk of flower is called Pedicel.

Question 7

Which part of the pistil serves as the landing place for pollen grains?

1. Style
2. Ovary
3. Stigma
4. Ovules

Answer

Stigma

Reason — Stigma is the top most portion of carpel that receives pollen grains.

Question 8

Perianth is the collective term for a group of:

1. Sepals
2. Tepals
3. Bracts
4. Petals

Answer

Tepals

Reason — In some cases, the sepals and petals look very similar and cannot be differentiated from one another. They are called tepals and collectively known as perianth.

Question 9

The condition of androecium, when, all the stamens are free from each other is termed as :

1. Polyadelphous

2. Polysepalous
3. Polyandrous
4. Polypetalous

Answer

Polyandrous

Reason — When the stamens are free, such condition is called Polyandrous.

Question 10

The flower which contains both stamens and carpels is called as:

1. Unisexual
2. Pistillate
3. Staminate
4. Hermaphrodite

Answer

Hermaphrodite

Reason — The flower which contains both stamens and carpels is called a bisexual or hermaphrodite flower.

Very Short Answer Type

Question 1

Match the parts in column A with the flowers or parts of flower in column B.

Column A	Column B
Polyadelphous	Polypetalous
Pollen grains	Calyx, corolla
Free petals	Nectar
Non-essential	Bombax
Sweet fragrant fluid	Pollen sac

Answer

Column A	Column B
Polyadelphous	Bombax
Pollen grains	Pollen Sac
Free petals	Polypetalous
Non-essential	Calyx, corolla
Sweet fragrant fluid	Nectar

Question 2

Name

1. Four whorls of the flower
2. Two types of unisexual flowers
3. Two main parts of a Stamen
4. Three main parts of a Pistil
5. Three types of stamens on the basis of their cohesion.

Answer

1. Calyx, Corolla, Androecium, Gynoecium
2. Staminate flowers, Pistillate flowers
3. Anther and Filament
4. Stigma, Style, Ovary
5. Monadelphous, Diadelphous, Polyadelphous

Question 3

Give two examples of each :

1. Monoecious plants
2. Dioecious plants
3. Imperfect flowers
4. Bisexual flowers

Answer

1. Maize, Cucumber
2. Palm, Papaya
3. Palm, Papaya
4. Hibiscus, Rose

Question 4

Fill in the blanks with suitable words :

1. The floral parts are borne on the ..... in four whorls.
2. The collective name of petals is ..... .
3. ..... and corolla are accessory whorls of the flower.
4. ..... attaches the ovules to the wall of the ovary.
5. The sweet fragrant liquid of flowers is termed as ..... .

Answer

1. The floral parts are borne on the ***thalamus*** in four whorls.
2. The collective name of petals is ***corolla*** .
3. ***Calyx*** and corolla are accessory whorls of the flower.
4. ***Placenta*** attaches the ovules to the wall of the ovary.
5. The sweet fragrant liquid of flowers is termed as ***nectar***.

Question 5

Note the relationship between the first two words and suggest a suitable word/words for the blank place.

1. Sepals : Calyx :: Petals : .....
2. Stamens : ..... :: Pistil : Gynoecium
3. Petals : Polypetalous :: Stamens : .....
4. Green petals : Sepaloid :: Coloured sepals : .....
5. Pollen grains : Anther :: Ovules : .....

Answer

1. Corolla
2. Androecium
3. Polyandrous

4. Petaloid
5. Ovary

Question 6

Name the type of the androecium found in

1. China rose
2. Bombax
3. Pea

Answer

1. China rose — The type of androecium found is **Monadelphous**.
2. Bombax — The type of androecium found is **Polyadelphous**.
3. Pea — The type of androecium found is **Diadelphous**.

Short Answer type

Question 1

Explain briefly the following terms:

1. Incomplete flower
2. Staminate flower
3. Pistillate flower
4. Bisexual flower

Answer

1. **Incomplete flower** — A flower is said to be an incomplete flower if one or more sets of floral whorls are missing. E.g. American Elm.

2. **Staminate flower** — A unisexual flower which contains only the stamens is called the male or staminate flower. E.g. Eastern Cottonwood.

3. **Pistillate flower** — A flower which contains only the carpels is called the female or pistillate flower. E.g. Date Palm.

4. **Bisexual flower** — A flower which contains both stamens and carpels is called a bisexual or hermaphrodite flower. E.g. Rose.

Question 2

What is the difference between:

(a) Flower and inflorescence?

(b) Petals and petaloid tepals?

Answer

(a) Difference between flower and inflorescence:

Flower	Inflorescence
Flower is specialized shoot in which the leaves are modified into floral structures.	Inflorescence is the mode of arrangement of flowers on the axis of a plant.

(b) Difference between petals and petaloid tepals:

Petals	Petaloid tepals
The second whorl of flower derived from the corolla is called Petals.	When sepals and petals cannot be differentiated from one another and are non-green, they are called Petaloid tepals.

Question 3

Define the terms:

1. Flower
2. Inflorescence
3. Placentation
4. Bract
5. Epicalyx

Answer

1. Flower is specialized shoot in which the leaves are modified into floral structures.
2. Inflorescence is the mode of arrangement of flowers on the axis of a plant.
3. The manner of attachment of ovules to the wall of the ovary is called Placentation.
4. When a flower arises in the axil of a leaf-like structure, this structure is called Bract.
5. An additional whorl around the calyx of a flower is called Epicalyx.

Question 4

Where are the following structure/parts located and what are their functions?

1. Placenta
2. Thalamus
3. Anther
4. Stigma

Answer

1. Placenta:
   Location — Cushion or swollen region in the ovary.
   Function — Attaches the ovules to the wall of the ovary.

2. Thalamus:
   Location — Tip of the flower stalk.
   Function — Bears all the parts of the flower.

3. Anther:
   Location — Part of the stamen.
   Function — Produces male gametes or pollen grains.

4. Stigma:
   Location — Terminal knob like part of the pistil.
   Function — Serves as the landing place for pollen grains during pollination.

Long Answer Type

Question 1

Distinguish between the following pairs

(a) Monoecious and Dioecious plants

(b) Perfect and Imperfect flowers

(c) Unisexual and Bisexual flowers

(d) Essential and Non-essential whorls of a flower

(e) Polyandrous and Polyadelphous stamens

Answer

(a) Difference between Monoecious and Dioecious plants:

Monoecious plants	Dioecious plants
Male and female flowers grow on the same plant.	Male and female flowers grow on different plants.

(b) Difference between Perfect and Imperfect flowers:

Perfect flowers	Imperfect flowers
A flower which contains all the four whorls.	A flower in which one or more whorls is missing.

(c) Difference between Unisexual and Bisexual flowers:

Unisexual flowers	Bisexual flowers
A flower which has either stamen or carpel is called unisexual flower.	A flower which has stamen as well as carpel is called Bisexual flower.

(d) Difference between Essential and Non-essential whorls of a flower:

Essential whorls	Non-essential whorls
Essential whorls of the flower are androecium and gynoecium.	Non-essential whorls of the flower are calyx and corolla.
Essential whorls are directly concerned with reproduction.	Non-essential whorls either protect the reproductive parts of the flower or make the flower attractive for pollination.

(e) Difference between Polyandrous and Polyadelphous stamens:

Polyandrous stamens	Polyadelphous stamens
The filaments of the stamens are free.	The filaments of the stamens are united in the multiple groups.

Question 2

Why are the following described as stated :

(a) The androecium of pea flower is **diadelphous**.

(b) Ray flowers of sunflower as **neuters**.

(c) Salvia sepals as **petaloid**.

Answer

(a) It is because the filaments of anthers are united in two bundles. Nine out of ten stamens in a pea plant form a staminal tube. The tenth is free.

(b) Ray florets of sunflower are described as neuters because both male and female reproductive structures are lacking.

(c) Sepals of the salvia are petaloid as 3 sepals are red in color and united as petals. Therefore, they are not differentiated from the petals.

Question 3

What are bracts? State their function.

Answer

When a flower arises in the axil of a leaf like structure, this structure is known as bract. It may be green like leaves or at times they are coloured.

The function of bracts is to protect the flower during its development and maturation. They may cover the flower bud, providing a shield against physical damage, excessive light, or harsh weather conditions. Colourful bracts can help attract pollinators to the flower.

Question 4

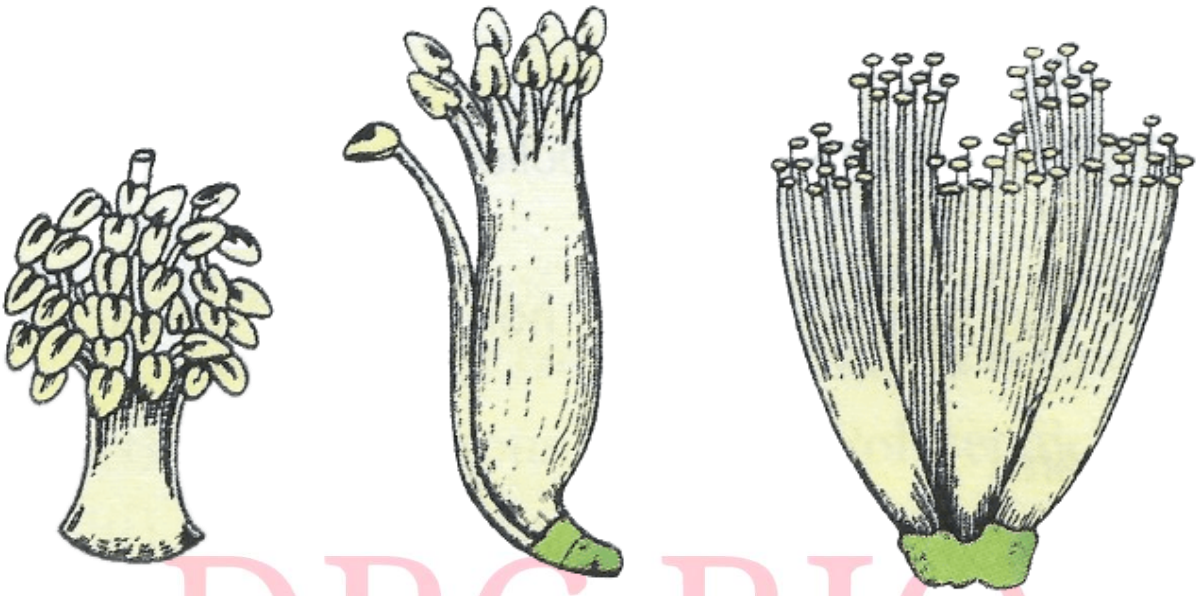
Explain the terms Monadelphous, Diadelphous and Polyadelphous using suitable diagrams. In each case name a flower possessing such an androecium.

Answer

1. **Monadelphous** — Stamens are united in one group by their filaments. Only anthers are free. E.g. China Rose.

2. **Diadelphous** — The filaments are united in two bundles. E.g. Pea.

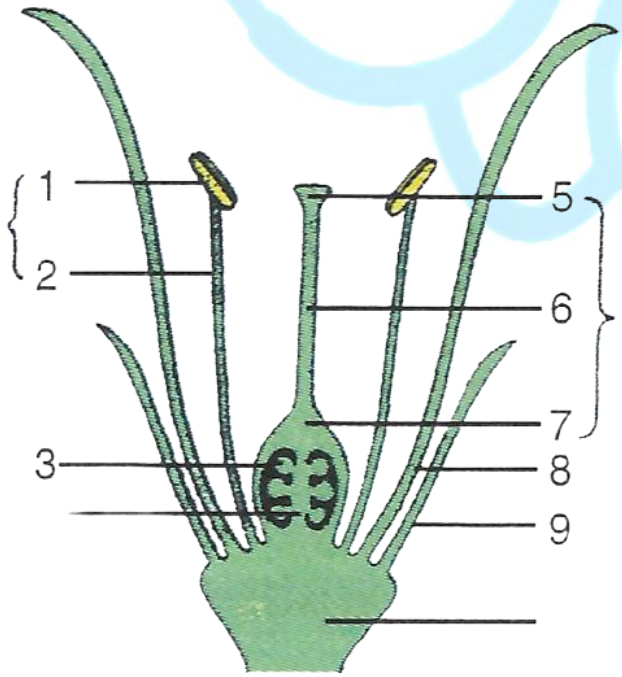
3. **Polyadelphous** — The filaments are united in several groups. E.g. Bombax.



Structure / Application / Skill Type

Question 1

The figure given alongside represents generalised arrangement of the different parts of a bisexual flower. Name the parts numbered 1-10.



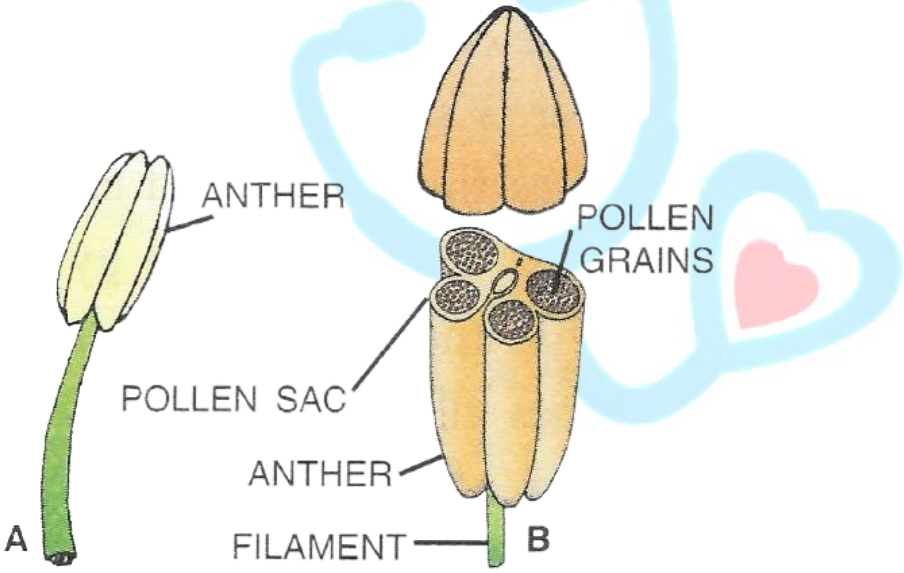
Answer

The parts labelled from 1 to 10 are as follows:

1. Anther
2. Filament
3. Ovule
4. Placenta
5. Stigma
6. Style
7. Ovary
8. Petal
9. Sepal
10. Receptacle / Thalamus

Question 2

Given alongside are two figures (A & B) of a certain part of a flower. Study the figures carefully and answer the following questions:



(a) Which major organ of a flower does the figure A represent? What is the collective term for this organ?

(b) Are the contents of the pollen sacs in B, male or female?

(c) Can you state how the contents of the pollen sacs would come out?

Answer

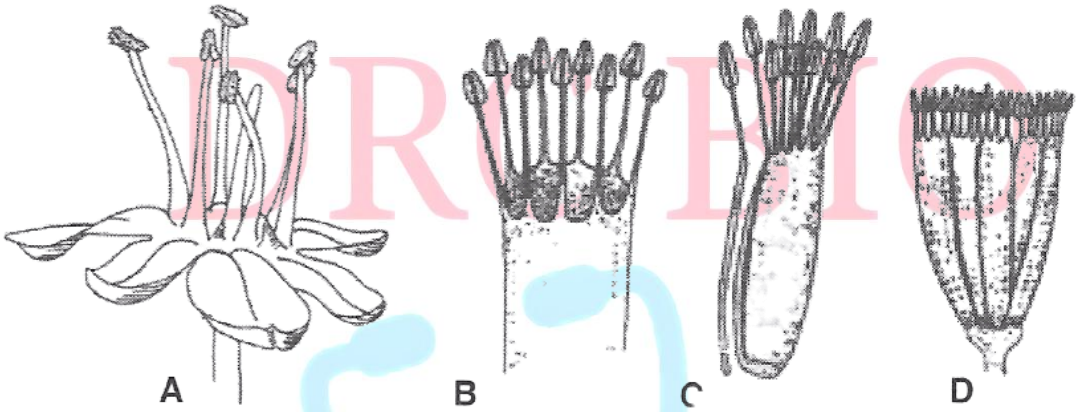
(a) Figure A represents stamen. Stamens collectively form Androecium.

(b) Contents of the pollen sacs in B, are male gametes.

(c) The contents of the pollen sacs would come out through agents like air, wind, insects leading to pollination in flowers.

Question 3

The figures (A, B, C and D) give below represent different kind of androecium. Name the kind of androecium (A, B, C and D) and give one example of a flower having each.



Answer

- A → Polyandrous. e.g. Petunia.
- B → Monadelphous. e.g. China Rose.
- C → Diadelphous. e.g. Pea.
- D → Polyadelphous. e.g. Bombax.

Question 4

Draw a neat diagram of male (♂) and female (♀) reproductive organs of a flower.

(a) Label two important parts of the male reproductive organ.

(b) Label four important parts of the female reproductive organ.

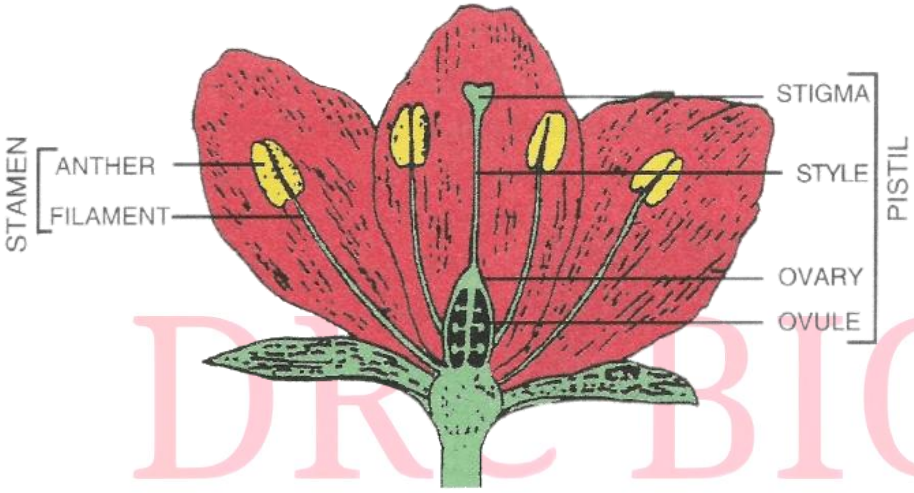
(c) Write the collective name/whorl of each reproductive organ.

(d) Name the unicellular, sexual structures produced in each.

(e) Name the parts of the female reproductive organ that develop into a fruit and seed respectively.

Answer

Below is the labelled diagram of male (♂) and female (♀) reproductive organs of a flower:



(c) The collective name of male reproductive organs is **Androecium** and female reproductive organs is **Gynoecium**.

(d) **Pollen grains** are produced in male reproductive organs and **Ovules** are produced in female reproductive organs.

(e) Ovary develops into fruit and Ovules develop into seeds, respectively.

Question 5

Draw either an entire flower or a part of it showing the following conditions :

(a) Polysepalous calyx

(b) Gamosepalous calyx

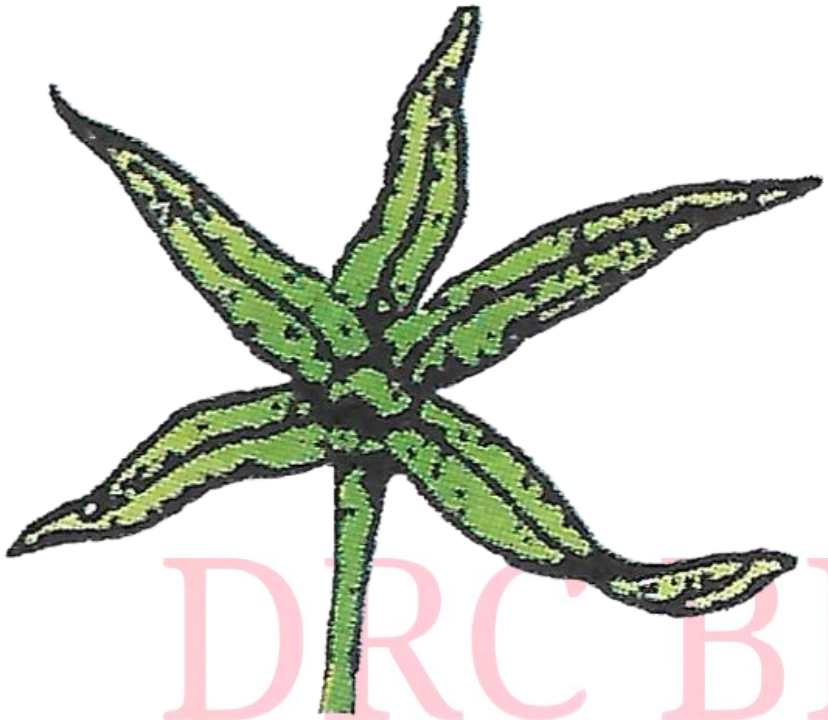
(c) Polypetalous corolla

(d) Gamopetalous corolla

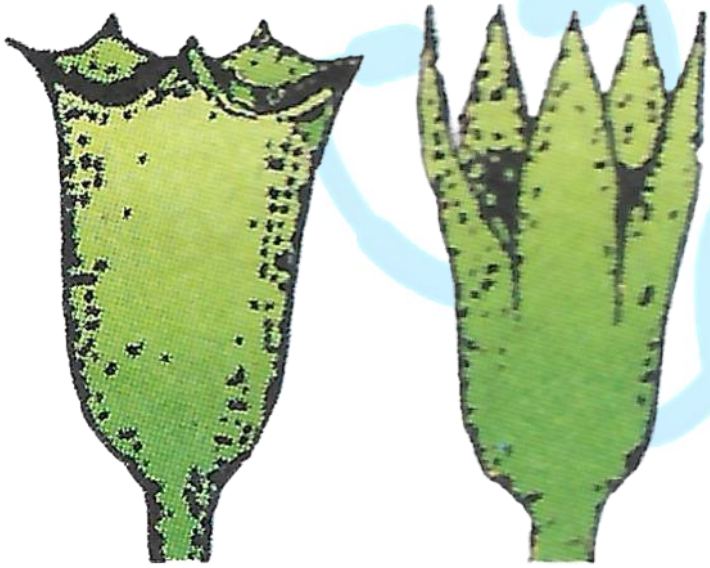
(e) Bracteate flower

Answer

(a) Polysepalous calyx

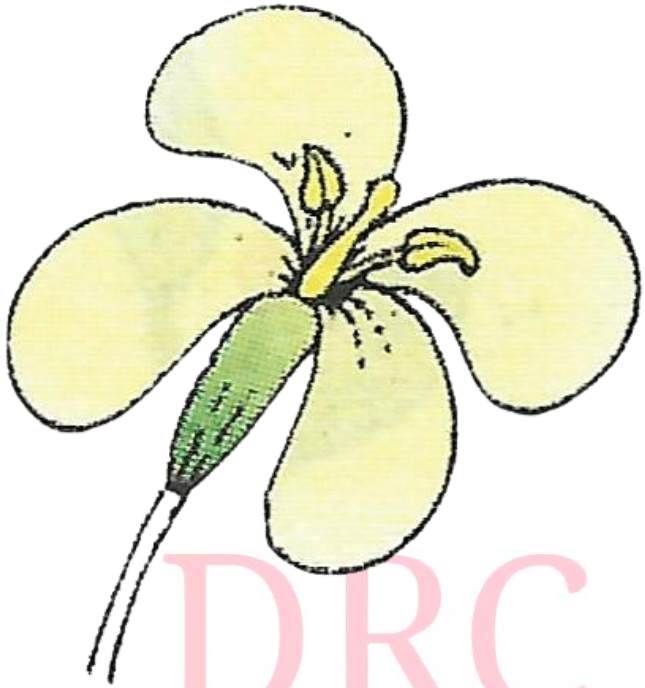


(b) Gamosepalous calyx

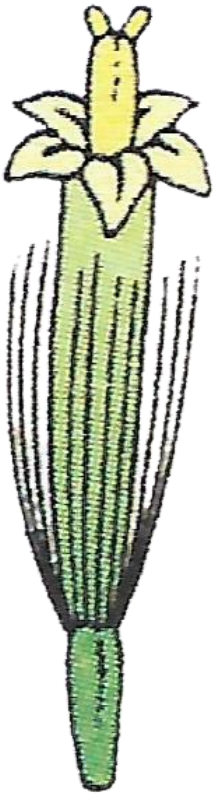


(c) Polypetalous corolla

I think the biggest innovations of the 21st century will be at the intersection of biology and technology. A new era is beginning- Steve Jobs



(d) Gamopetalous corolla



(e) Bracteate flower

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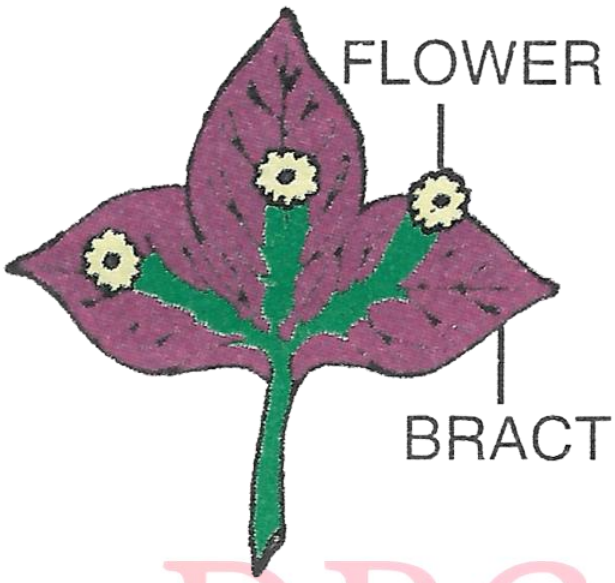

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