

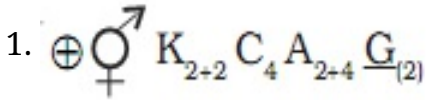
CBSE TEST PAPER-02
CLASS - XI BIOLOGY (Morphology of Flowering Plants)

General Instruction:

- All questions are compulsory.
 - Question No. 1 to 3 carry one marks each. Question No. 4 to 6 carry two marks each. Question No. 7 and 8 carry three marks each. Question No. 9 carry five marks.
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1. Write floral formula of Brassica Campestris.
2. Why are flowers of cucumber referred to as epigynous ?
3. What is false fruit?
4. What is the difference between alternate & whorled phylotaxy.
5. Define venation? What are two types of venation?
6. Why is leaf of Bombax categorized as palmately compound multifoliate leaf?
7. Describe the arrangement of floral members in relation to their insertion on thalamus.
8. How is herbaceous stem different from a woody stem?
9. What is a flower? Describe the parts of typical angiospermic flower with the help of a diagram.

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[ANSWERS]



2. Because the floral parts lie above the ovary & the ovary is inferior.
3. When floral parts other than ovary takes part in formation of fruit & become edible, it is called false fruit. Eg. Apple develops from ovary and thalamus
- 4.

Alternate phyllotaxy	Whorled phyllotaxy
i) Only one leaf arises at each node.	i) More than two leaves arises at each node
ii) Leaves arises alternately on left & right sides of the stem	ii) Leaves arise in whorl from one point
iii) Eg. chinarose, mango	iii) Eg. Neruim

5. Veins arrangement in leaf lamina is called venation. There are two types of venation:-
 - a) Parallel:- when veins are arranged parallel to each other on lamina. eg monocots
 - b) Reticulate:- when veins forms a network on leaf lamina. eg dicots
6. Leaf of Bombax is categorized as palmately compound multifoliate leaf because the petiole bears leaflets. Five or more leaflets are articulated on a long axis & the shape of leaf is like the palm of a hand in Bombax. This type of leaf is called digitate.
7. Based on the position of calyx, corolla & the androecium in respect of ovary on the thalamus, flowers may be explained into 3 kinds.
 - a) HYPOGYNOUS FLOWERS:- Gynoecium located at highest position & rest whorls of flower lies below it. eg. mustard, chinarose.
 - b) PERIGYNOUS FLOWERS:- The gynoecium is situated in center, other parts of flower lie on the rim of thalamus almost at same level, Ovary is half inferior eg. plum, rose.
 - c) EPIGYNOUS FLOWERS:- The margins of thalamus grows upwards enclosing the ovary fully & getting to it, rest parts of the flower arises above the ovary. i.e. Ovary is inferior in these flowers. Eg. Guava, sunflower, cucumber.

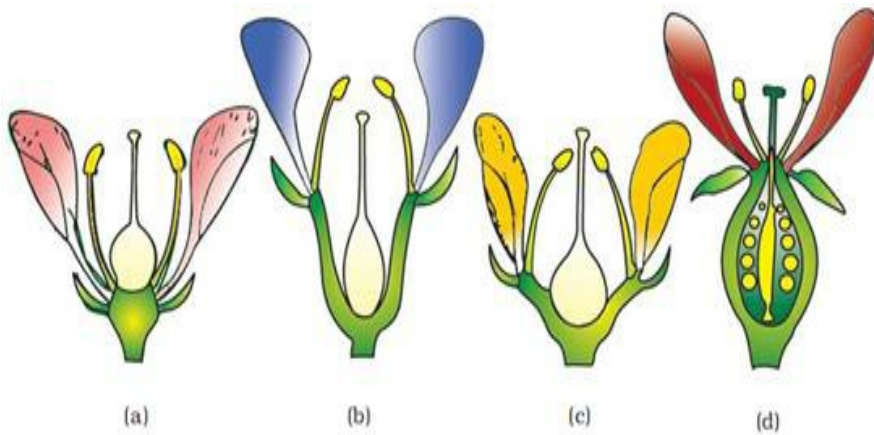


Figure 5.13 Position of floral parts on thalamus : (a) Hypogynous (b) and (c) Perigynous (d) Epigynous

8.

HERBACEOUS STEM	WOODY STEM
i) Annual or biennial & short- lived	i) Always perennial & long. Lived.
ii) Green, soft and fleshy and on bending does not break.	ii) Brown or grey & hard and break on bending
iii) The protective superficial layer epidermis forms the outer covering.	iii) Thy epidermis is replaced by corky layer or bark.
iv) Stomata are present throughout its length for gaseous exchange	iv) It develops dot- like pores called lenticels for gaseous exchange
v) Buds often naked	v) buds are often protected by scales
vi) They consist of primary permanent tissues.	vi) They consist of secondary permanent tissues.
vii) eg: maize, wheat, rice	vii) eg: gram

9. The flower can be defined as a modified shoot bearing nodes & modified floral leaves. It consists of following parts:-

- i) CALYX:- It is the outermost whorl of flower. It is green. Leaf- like structure it may be polysepalous (sepals free) or gamosepalous (sepals united) calyx may be regular or irregular.
- ii) COROLLA:- It is the second whorl of the flower inside the sepals. The petals are usually

brightly coloured. The insects are attracted due to colour of the petals so they help in pollination. The narrow stalk like lower portion of petal is called a claw & the upper extended portion is known as limb.

iii) ANDROECIUM:- It represents as male reproductive parts. It consists of stamens in each stamen there are three parts:-

a) Anther:- Knob like bilobed structure containing pollen grains. Each lobe contains two chambers called pollen sac.

b) Connective:- A strip of tissue, which connects the anther lobe is called connective.

c) Filament:- a slender stalk by which anther lobes are attached is called filament.

iv) GYNOECIUM:- It is the female part of the flower it is made up of three parts

a) Stigma:- upper part of pistil which receives pollen grains

b) Style: - The stalk between stigma & ovary.

c) Ovary:- basal part containing ovules.

