

SARASWATI



HEAD OFFICE

208, CD, LOCAL SHOPPING CENTER
AGGARWAL SHOPPING PLAZA, PITAMPURA

BRANCH-1

AYODHYA CHOWK
SEC – 3 , ROHINI

BRANCH-2

DC CHOWK
SEC – 9, ROHINI

9TH & 10TH MATHS / SCIENCE

11TH & 12TH – PHYSICS / CHEMISTRY / MATHS / BIOLOGY

EXCLUSIVE BATCH FOR NEET / JEE ASPIRANTS

Ph no. 9696 500 500 / 9696 400 400

BIOLOGY

CHAPTER-5 MORPHOLOGY OF FLOWERING PLANTS

(1 mark)

Q1. Which Part in ginger and onion are edible.

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Q2. Reticulate and parallel venation are characteristic of and respectively.

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Q3. Give two examples of roots that develop from different parts of the angiospermic plant other than the radicle.

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Q4. Name the types of roots, which perform the function of respiration in rhizophora.

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Q5. why is a leaf of neem called pinnately compound?

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Q6. Why is a leaf of silk cotton called palmately compound.

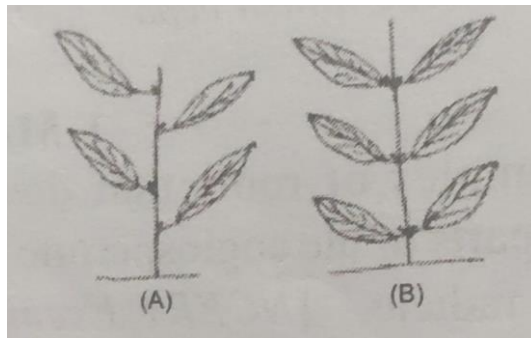
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Q7. Why is phyllotaxy in *Alstonia* described as Whorled?

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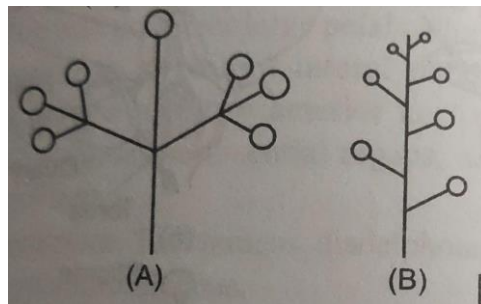
Q8. Name the phyllotaxy shown in figure (A) and (B) .



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Q9. Name the inflorescence shown in (A) and (B).



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Q10. Why is a flower of *Cassia* described as Zygomorphic?

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Q11. Provide a term to radially symmetrical flowers?

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Q12. Why are flowers of mustard referred to as hypogynous?

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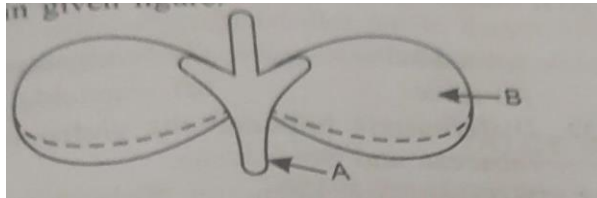
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Q13. Why are flowers of cucurbits referred to as epigynous?

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Q13. Why is corolla of solanum described as gamopetalous?

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Q14. Why is the gynoecium of mustard described as syncarpous?

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Q15. Name the part labelled as A and B. shown in given figure.



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(2 Mark)

Q16. Roots obtain oxygen from air in the soil for respiration. In the absence or deficiency of O_2 , root growth is restricted or completely stopped. How do the plants growing in marshlands or swamps obtain their O_2 required for root respiration?

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Q17. Rhizome of ginger is like the roots of other plants that grows underground. Despite this fact ginger is a stem and not a root. Justify?

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Q18. Tendrils are found in the following plants. Identify whether they are stem tendrils or leaf tendrils.

- (a) Cucumber (b) Peas (c) Pumpkin (d) grapevine (e) Watermelon

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Q19. Identify the plant. Which part of the plant is modified into a 'pitcher'? How does this modification help the plant for food even though it can photosynthesis like any other green plant?



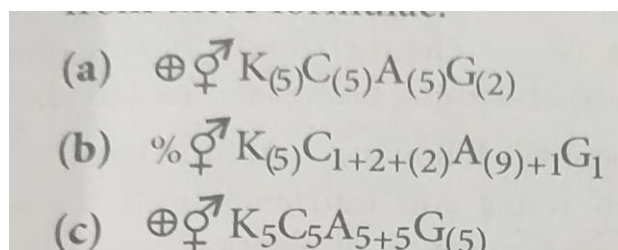
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Q20. A typical angiosperm flower consists of four floral parts. Give the names of the floral parts and their arrangements sequentially.

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Q21. Draw the labelled diagram of following:

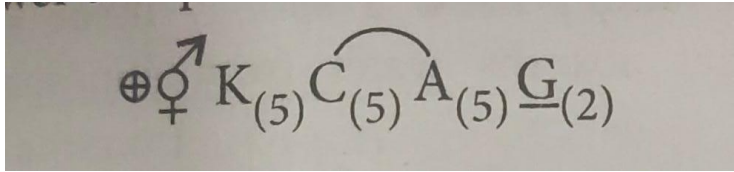
(a) Gram seed

(b) V.S of maize seed

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Q22. Given below are a few floral formulae of some well-known plants. Draw floral diagrams from these formulae.



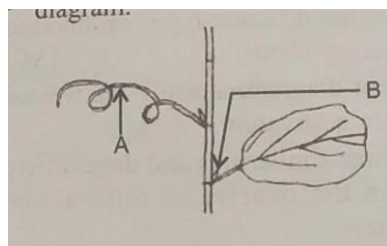
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Q23. Study the floral formula given below and answer the questions that follow.



- (a) Whether the flower is actinomorphic or zygomorphic?
- (b) What are the numbers of petals and pistils in the flowers?
- (c) What kind of relationship is being shown between petals and stamens?
- (d) Which character of pistil cannot be studied with the help of a floral formula?

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Q24. Differentiate between fibrous roots and adventitious roots?

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Q25. Name the part labelled as A and B, shown in the diagram.



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Q26. How is a pinnately compound leaf different from a palmately compound leaf?

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Q27. Differentiate between racemose and cymose inflorescence?

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Q28. Why are stamens of

(a) Brinjal called epipetalous and

(b) Lily, called epiphyllous?

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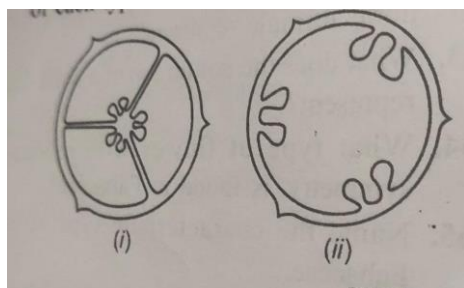
Q29. Differentiate between apocarpous and syncarpous ovary.

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Q30. Name the type of placentation shown in the given figures (i) and (ii). Give one example of each type.



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Q31. Write the floral formula of an actinomorphic bisexual, hypogynous flower with five united sepals, five free petals, five free stamens and two united carpels with superior ovary and axile placentation.

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(3 Mark)

Q24. The essential functions of roots are anchorage and absorption of water and minerals in the terrestrial plant. What functions are associated with the roots of aquatic plants? How are roots of aquatic plants and terrestrial plants different?

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Q25. What is heterophylly? Briefly describe its type.

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-Q26.Explain with suitable examples, the different types of phyllotaxy.

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Q27. How is a pinnately compound leaf different from a palmately compound leaf?

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Q28.make a simple diagram of a flowering plant and show/ label its different part.

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Q29. Assign the following to their respective plant families and describe the nature of gynoecium in each of them.

(A) Vegetables

(a) *Allium cepa* (Onion)

(b) *Pisum sativum* (Pea)

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(5 Mark)

Q30. Define the term inflorescence. Explain the basis for the different types of inflorescence in flowering plants.

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Q31. sunflower is not a flower explain.

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Q32. The arrangements of ovules within the ovary is known as placentation. What does the term placenta refer to? Name and draw various types of placentations in the flower as seen in T.S. or V.S.

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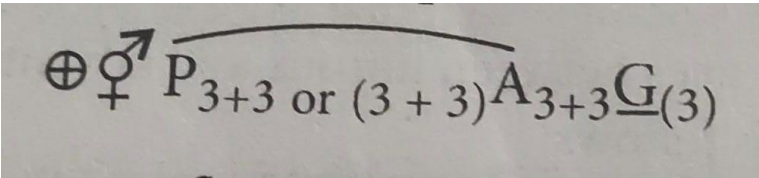
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Q33. Shown below is the floral formula of a family. Identify the family. Draw the floral diagram corresponding to the floral formula and give semi-technical description of the family.



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Q34. Take one flower each of the Families Fabaceae and Solanaceae and write their semi-technical descriptions. Also draw their floral diagram after studying them.

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Q35. Describe the arrangement of floral members in relation to their insertion on thalamus.

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Q36. Describe the various types of placentation found in flowering plants.

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Q37. The ovary of a flower develops into a fruit and the ovary wall becomes the fruit wall, called pericarp. In mango and coconut, the fruit is described as drupe.

- (a) What are the three regions that can be differentiated in the pericarp of coconut?
- (b) Which part is edible in (i) coconut and (ii) mango?

(c) What value is shown by the above fruits?

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Q38. Roots of some plants change their shape and structure and perform functions other than anchorage and absorption of water and minerals; they are called modified roots.

(a) What are adventitious roots? Name and describe any two types of adventitious roots with an example of each.

(b) Name a plant with two types of root systems and name the types of roots.

(c) Indicate the value shown by these types of roots.

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Q39. Stem is the ascending part of the axis that grows above the ground and bear leaves, flowers and fruits. Stem is characterised by the presence of nodes and internodes.

(a) Mention the functions normally performed by stem in plants.

(b) Mention the stem modification in each of the following and mention their functions:

(i) Grapevine (ii) Bougainvillea

(c) Mention the value shown by these modifications.

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Q40. A flower is a shoot modified for sexual reproduction in angiosperms. There are different kinds of whorls arranged successively on the thalamus. A flower may be actinomorphic or zygomorphic.

(a) Name the stalk of the flower.

(b) What names are given to the four whorls of floral leaves in a typical flower? What is each of them made of?

(c) What value is evinced by the different parts?

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Q41. Seed is the fertilised ovule. It has a seed coat and embryo. Endosperm is the nutritive tissue that stores food for the developing embryo. But at maturity some seeds like castor are endospermic while seeds of pea are non- endospermic.

(a) Name the two layers of seed coat.

(8) Why are some seeds endospermic and some non-endospermic?

(e) What value do you learn from these different seeds?

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Q42. Rahul has a passion of collecting types of seeds and sowing them at different places he visits. One day he sowed some maize and bean seeds in his garden. After germination of these seeds he observed that in case of maize, cotyledons remained under the soil while in case of bean, cotyledons came out of the soil. He enquired about this to his biology teacher. His teacher explained that bean is a non endospermous seed as no endosperm (food) is present whereas maize is an endospermous seed as it contains endosperm. Bean seed cotyledon comes out of the soil to photosynthesise and provide food material for the growth of the plant. In case of maize some food is stored in cotyledon so it remains under the soil and provides nourishment to growing plant for sometime. She further added, in hypogeal germination cotyledons remain under the soil while in epigeal germination cotyledons come out of the soil.

(a) Give two examples each of an endospermous and a non endospermous seed.

(b) Differentiate between epigeal and hypogeal germination.

(c) What value is shown by Rahul?

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