

CBSE TEST PAPER-01
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. Name one monocot & one dicot in which endosperm is present?
2. Why are date palm referred to as dioecious?
3. What is placentation?
4. What is Rhizome? Give its two examples.
5. Differentiate between epigynous & perigynous flowers.
6. Give reason to justify that onion bulb is a modified stem?
7. Describe that parts of a typical angiospermic leaf?
8. Differentiate between a maize grain & a bean seed?
9. Describe the various types of placentations found in flowering plants & represent diagrammatically.

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[ANSWERS]

1. Monocot: Maize grain & Dicot: castor oil seed.
2. Because male & female flowers being produced in clusters on separate palms.
3. The arrangement of placenta ovules on the ovary wall is called placentation.
4. Rhizome is a prostrate & a thickened underground stem having distinct nodes, internodes scales, leaves as well as buds. It creeps horizontally under the ground eg. Ginger, turmeric.
- 5.

Epigynous flowers	Perigynous flowers
i) The thalamus is usually flask shaped & is fused with the ovary so that floral parts rise on the top of ovary.	i) The thalamus is cup-shaped structure around the ovary but is not fused & bears sepals, petals & stamens.
ii) Ovary is inferior eg. Apple, cucumber	ii) Ovary is half inferior eg. Rose.

6. Onion bulb is a modified stem because :

- a) It has a large number of fleshy scale leaves. b) Terminal & auxiliary buds are present. c) On the lower posterior side, a cluster of adventitious roots are present.

7. A typical angiospermic foliage leaf possesses the following parts.



- i) LEAF BASE:- It is the region in the stem, from which leaf arises. Its main function is to attach the leaf with the stem or a branch.
- ii) PETIOLE:- The stalk of a leaf is called petiole. The leaves having petiole is called petiolate. As in banyan leaf, some leaves may lack petioles.

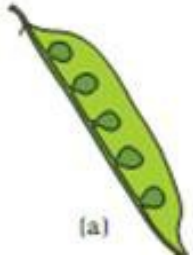
iii) LAMINA:- The green, flattened part of the leaf attached with petiole is known as “lamina”. It is the part which performs photosynthesis, respiration & transpiration. There is a “midrib” in the middle of the lamina. The midrib in compound leaf is called rachis. The lamina may be of different shapes in different kinds of leaves.

8.

MAIZE GRAIN	BEAN SEED
i) It is single seeded fruit called the caryopsis	i) It is a true seed formed inside a fruit called the pod or legume.
ii) The fruit wall or the pericarp is fused with testa.	ii) The pericarp is free from testa.
iii) There is one seed coat which inseparably fused with pericarp	iii) There are two seed coats called testa & tegmen They are fused with each other.
iv) The grain is endospermic	iv) The seed is non endospermic.
v) The grain has no hilum, micropyle & chalaza on its surface.	v) The chalaza, hilum & micropyle are clearly visible.
vi) There is no ridge like raphe	vi) The raphe is clearly visible.
vii) The plumule & radical are protected by distinct sheath called the coleoptile sheath called the coleoptiles & coleorhizae respectively	vii) The plumule & radical are not covered by any such protective sheath.
viii) The cotyledon acts as the absorbing structure that absorbs food from endosperm & transfers it to embryo.	viii) The cotyledons are merely food storage organs.

9. The arrangement of placenta ovules on the ovary wall is called placentation. The various types of placentations found in flowering plants are:-

i) Marginal :- Ovary one chambered and ovules lies along the margin of the ovary eg. pea & gram



ii) Parietal :- When the ovules develop on the inner wall of the ovary. Eg. mustard.



iii) Axile :- The placenta is axial and the ovules are attached to it . eg. onion & lemon.



iv) Free central :- The ovules develop on the central axis while the septa are absent. eg. Dianthus, Primula.



v) Basal :- The ovary in which the placenta develops from its base and a single ovule is found attached to its base. eg. sunflower.

