

CBSE TEST PAPER-03
CLASS - XI BIOLOGY (Plant Kingdom)

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 an algae which is used as fodder in poultry.
2. Which group of plants is called Vascular cryptogams?
3. What is a cone?
4. How do fungi differ from algae?
5. why are Gymnosperms and Angiosperms classified separately inspite of both bearing seeds?
6. List any three salient distinguishing features of Bryophytes.
7. What are the salient features of of identification of Angiosperms?
8. Bring out the similarities in sexual reproduction of moss & fern.
9. Explain the common mode of reproduction in Angiosperms.

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[ANSWERS]

1. *Laminaria*.

2. Pteridophyta.

3. The fruiting body of gymnosperm which consists of micro & megasporophyll are called as cone. They are the structures of reproduction

4.

Algae	Fungi
i) Chlorophyll is present and so they are green	i) Chlorophyll absent and so they are non- green.
ii) Autotrophic nutrition	ii) Heterotrophic in Nutrition, either Saprophytic or parasitic
iii) Absorbs inorganic & mineral salts	iii) Absorbs organic or mineral salts
iv) Eg <i>Chlamydomonas</i> , <i>Ulothrix</i>	iv) Eg. <i>Albugo</i> & Yeast

5. The gymnosperms are plants that bears ovules which are not covered by any ovary wall & remain exposed on the Ovuliferous scles of female cones. Hence the seeds of gymnosperms are also not covered and they are naked. But in the Angiosperm, the seeds remains closed inside the fruit and so they are classified seperalely.

6. i) They are small, erect or thalloid plants growing in moist shady places

ii) They have no leaf like, stem like or root like structure.

iii) Most plants are gametophytes. They develop from haploid spores.

iv) Water is essential for reproduction

7. i) Majority of the plants around us are Angiosperms. They produce flowers upon maturity.

ii) flowering plants show great number of diversities in habitat, habits, forms and duration of life. They are closed seed bearing plants

iii) The plants with stem varying from a few mm to metre or so in height are termed as herbs, medium sized plants with woody stem are termed as shrubs & tall woody plants are

known as trees.

iv) Plants which live for a year or part of year are termed annual, which live for two year are termed as biennials & which live more than two years are termed as perennials.

v) Plants which live in extremely dry conditions are termed as Xerophytes; plants living in water are termed as hydrophytes; those living in moderate conditions are termed as mesophytes.

vi) All flowering plants have roots, stem & leaves. They produce flowers, seeds & fruits..

vii) The economic uses of plants are varied. Plants provide us with materials for our food, clothing & shelter.

8. i) Both Ferns and Moss exhibit Oogamous type of sexual reproduction which involves fertilization of non- motile female gamete called egg by means of a motile male gamete or sperm.

ii) In both, the male sex organ called antheridia consists of a jacket of sterile cells that enclose a spermatogenous tissue.

iii) Sperms are flagellate.

iv) Female sex organ called archaegonia are flask shaped structures having a tubular neck & a swollen basal venter. Venter encloses a single egg or oosphere & sterile venter canal cells. Neck has either one or more neck canal cell.

v) An external source of water is needed for the swimming of the sperms so as to reach the egg in the archegonia upon maturity.

vi) Dependence of the embryo upon gametophytic phase.

vii) Occurrence of heteromorphic or heterologous alternation of generation.

9. Angiosperms reproduce through flowers. Stamens & pistils are the two essential reproductive parts of a flower. The stamen, male reproductive part of the flowers, consists of a slender filament with anthers at the tip. Each pistil, the female reproductive part is made of three parts- ovary, style & stigma. Ovary contains one to many ovules. Each ovule contains megaspore mother cell it produces four haploid megaspores after meiosis. Of the four megaspores, three degenerate & remaining one is functional megaspore. It divides by mitosis to form megagametophyte. It consists of 8 haploid nuclei embedded in cytoplasm of which 3 cells lie at the micropylar end & 3 antipodal lie at chalazal end. The two remaining nuclei move to centre to make a diploid nucleus.

The anthers have pollen sac & contains many microspore mother cells. Each of them

produces four haploid microspores after meiosis & each becomes a microgametophyte. It contains two nuclei namely generative nucleus & tube nucleus. The pollen is carried away by air & other agencies & reaches stigma of pistil of same or different plants. This process is called pollination. Pollen grains germinate & produce a pollen tube as they grow within style & reach ovule of ovary. The generative nucleus divides in pollen tube producing two male gametes.

On reaching ovule, pollen tube bursts to release male gametes. One of the two gametes fertilises egg & forms a diploid zygote. Other male gamete fertilises with polar nuclei to form triploid endosperm. This is known as double fertilization.

