BRAIN INTERNATIONAL SCHOOL

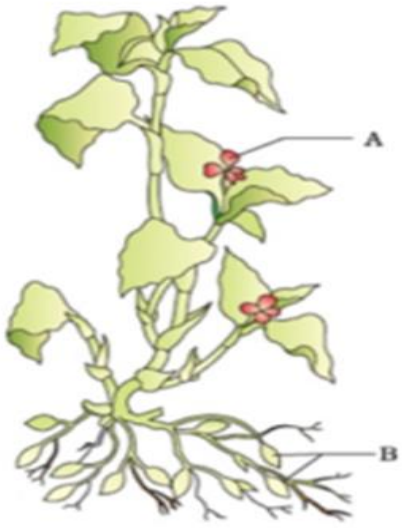
SUBJECT: BIOLOGY CLASS-XII APRIL 2021

CHAPTER 1: RERODUCTION IN ORGANISMS

1. Why do internodal segments of sugarcane fail to propagate vegetatively, even when they are in contact with damp soil?
2. Fill in the blanks 'a' and 'b'.
   (i) Rhizome: Ginger :: 'a' : Water hyacinth
   (ii) Leaf buds : Bryophyllum :: Bulbils : 'b'
3. What is meant by the terms 'homothallic' and 'heterothallic'. Illustrate with an example for each.
4. Describe the process of sporulation seen in Amoeba.
5. Show only by diagrams, the binary fission in Amoeba.

CHAPTER 2: SEXUAL REPRODUCTION IN FLOWERING PLANTS

1. Assertion: In angiosperms, the growth of male gametophyte occurs partially inside the microsporangia of anther and partially on the pistil.
   Reason: The complete growth and development of female gametophyte of angiosperm occurs inside the ovule.
   a. Both assertion and reason are true, and reason is the correct explanation of assertion.
   b. Both assertion and reason are true, but reason is not the correct explanation of assertion.
   c. Assertion is true but reason is false.
   d. Both assertion and reason are false.
2. Draw L.S of anatropous ovule of an angiosperm and label:
   a) Nucellus b) Secondary nucleus.
3. a) Draw a labeled sectional view of albuminous seed.
   b) Give two advantages of seeds to flowering plants
4. A non-biology person is quite shocked to know that apple is a false fruit, mango is a true fruit and banana is a seedless fruit. As a biology student, how would you clarify this person?
5. Continued self pollination lead to inbreeding depression. List three devices, which flowering plant have developed to discourage self pollination?
6. The given picture shows a Commelina plant, bearing two types of bisexual flowers, an adaptation for assured seed set and genetic variation in the progeny.



i. Two other plants which also bear these two types of flowers on the same plants are:

a. Oxalis and Pisum
b. Pisum and Viola
c. Oxalis and Viola
d. Hydrilla and Zostera

ii. The type of pollination that occur in flower type A is

a. Autogamy b. Geitonogamy c. Xenogamy d. All of these

iii. The type of pollination that occur in flower type B is

a. Autogamy b. Geitonogamy c. Xenogamy d. All of these .

iv. To avoid inbreeding depression plants have evolved adaptations that permit only:

a. Autogamy b. Geitonogamy c. Xenogamy d. Cleistogamy

v. An adaptation some plants have evolved for assured seed set, is:

a. Autogamy b. Geitonogamy c. Xenogamy d. All of these

CHAPTER 3: HUMAN REPRODUCTION

1 **Assertion:** In human testis, the regions outside the seminiferous tubules are called interstitial spaces, where Leydig cells are present.

Reason: Leydig cells synthesize and secrete the hormone, testosterone.

a. Both assertion and reason are true, and reason is the correct explanation of assertion.
b. Both assertion and reason are true, but reason is not the correct explanation of assertion.
c. Assertion is true but reason is false.
d. Both assertion and reason are false.

2. a) Differentiate between spermatogenesis and Oogenesis on the basis of:
   i) Time of initiation of the process
   ii) Site of completion of the process
   iii) Nature of meiotic division undergone by gamete mother cells.
   b) Name the hormones and state their role involved in controlling spermatogenesis in humans.
3. Mention two functions of FSH during the follicular phase of mensrual cycle.
4. How does the enzymes of the acrosome help in fertilisation?
5. Draw a neat and a labelled diagram of a blastocyst. Where are stem cell found in the blastocyst?