

ARMY PUBLIC SCHOOL KALUCHAK
HOLIDAYS H.W.
SUBJECT- BIOLOGY
CLASS XII (2022-23)

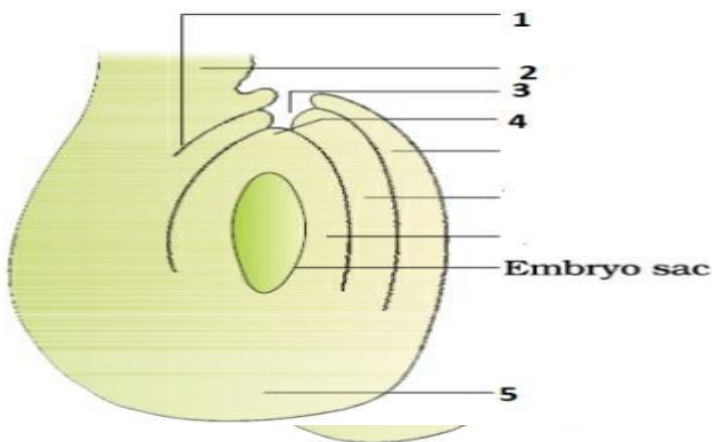
**I. Prepare an investigatory project on the given topic as per CBSE guidelines.
(One topic given to each student from the curriculum)**

- a). Introduction to the topic**
- b). Content**
- c). Diagrams/ illustrations/ pie charts/ graphs**
- d). Activity / Practical conducted**
- e). Investigation / Case study**
- f). Conclusion**
- g). Bibliography**

NOTE The Project has to be hand written based on investigations and case study.

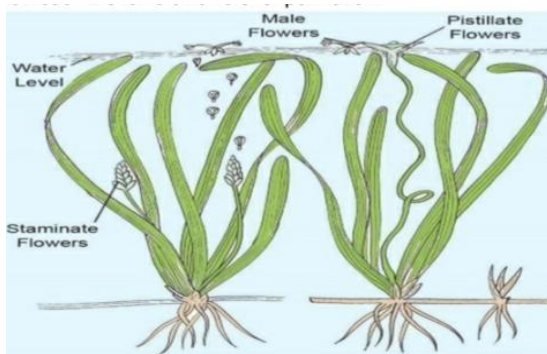
WORKSHEET

II. Solve the following questions:



Observe the diagram and answer the following:-

1. what is the name of 1? a. Funicle b.hilum c. Integuments
2. Function of 3 a. nourishment b. Exchange of gases c .gametogenesis
3. It plays role in providing reserve food
a. 4 b. 5 c. 3
4. _____ attach ovule to placenta
a. 1 b. 2 c. 3
5. Embryo sac consists of _____ cells.
a. 6 b. 7 c. 8



Observe the picture and answer following:-

6. Identify the plant
a. Zostera b. Yucca c. Vallesneria
7. Which flowers detach from plant before fertilization
a. male b. female c. both
8. What type of pollination takes place in it?
a. wind b. water c. insect
9. Give special feature of Male gamete
a. colourful b. mucilagenous sheath c. ribbon shape
10. Which of following is not feature of this plant?
a. unisexual flower b. nectaries c. mucilagenous sheath
11. What is represented by A?
a. Placenta b. Embryo c. endosperm
12. _____ represented cotyledon.
a. C b. E c. A
13. E is
a. coleoptile b. coleorhiza c. endosperm
14. D is
a. coleoptile b. coleorhiza c. endosperm

15. Aleurone layer is _____ in composition.
- a. proteinaceous b. Unsaturated c. Phospholipid

- A. Assertion and reason on both are correct statement and reason is correct explanation for assertion**
- B. Assertion and reason on both are correct statement but reason is not correct explanation for assertion**
- C. Assertion is correct statement but reason is wrong statement**
- D. Assertion is wrong but reason is correct statement**

I) Read the passage given below and answer the following questions.

The typical ovule is a small structure attached to the parenchyma by a stalk. To placenta for the supply of nourishment of ovule. Thus hilum represents the junction between ovule and ovary. Opposite the micropylar end the chalaza represents the basal part of the ovule. Enclosed within the integument is a mass of parenchyma cells called the nucellus. Cells of the nucellus have abundant reserve food material. Inside lies the more developed embryo sac or female gametophyte. An ovule generally has a single embryo formed from a megaspore.

1. Placenta of ovule is composed of which type of cell
a. Colenchymatous b. Sclerenchymatous c. Parenchymatous
2. The body of ovule fuses with the funicle in the region is called
a. Micropyle b. Chalaza c. Hilum
3. The hilum represents the junction between
a. Ovule and placenta b. Ovule and funicle c. Ovule and nucellus
4. Integument encircles the ovule except at the tip where small opening is present named as
a. Germ pores b. Nucellus c. Micropyle
5. **Assertion:** Ovule has mass of parenchymatous cells called nucellus.
Reason: cells of the nucellus have a lot of Reserve food material

II) Read the passage given below and answer the following question

The cell sporogenous tissue undergoes mitotic cell divisions to form microspore tetrad due to callose. As each cell of the sporogenous tissue is capable of giving rise to microspore tetrad, each one is a potential microspore mother cell. The process of formation of microspore from a pollen mother cell through meiosis is called microsporogenesis. The Pollen grains

as they are arranged in a cluster of 4 cells the microspore tetrad due to callose. As the anther mature and dehydrate the microspores dissociate from each other due to cal and develop into pollen grains

1. Study of pollen grains of plants is
 - a. Palynology
 - b. Palentines
 - c. Palaeobotany
2. _____ undergo meiosis to form Male gamete
 - a. Megaspore
 - b. generative cell
 - c. Antipodal cell
3. Meiosis is best studied in
 - a. Gamete
 - b. Microsporangium
 - c. Pollen grain
4. An anther having four microspore mother cell shall produce how many pollen grains
 - a. 24
 - b. 12
 - c. 18
 - d. 16
5. In Pollen the outermost hard and the most resistant Exine is made up of
 - a. Cellulose
 - b. Sporopollenin
 - c. Pectin

Long answer type questions:

- Q1. Mendel carried out a cross between a pure Pea plant with Yellow and Round seeds and another with Green and Wrinkled seeds.
- a. What is the genotype and phenotype of F1 hybrid? Which mechanism of inheritance and law is depicted?
 - b. Which new recombinants are obtained in F2 generation? Show with the help of a punnett square. Explain the mechanism.
- Q2. Placenta is considered as an endocrine gland. Justify.
- Q3. a. Differentiate between Parthenocarpy and Parthenogenesis.
b. Why are apomictic seeds preferred over hybrid seeds?
- Q4. A Snapdragon flower produces Pink flowers in F1 generation when plants Plants with pure Red and pure White flowers are crossed. Illustrate the Mechanism with the help of a cross.

