



13. Differentiate between a zoospore and a zygote.

Ans:

Zoospores are the microscopic, flagellated (motile) special asexual reproductive structures found in certain members of the kingdom fungi and simple plants like algae whereas zygote is a diploid cell formed by the fusion of male and female gametes. The zygote is usually nonflagellated.

Zoospores are the structures that give rise to new organism whereas zygote is formed after fertilization which develops into a mature organism.

14. Differentiate between gametogenesis from embryogenesis

Ans: Differences between gametogenesis and embryogenesis are as follows:

Gametogenesis

1. It is the formation of male and female gametes.
2. Gametes are the haploid cells. Embryogenesis
3. Both mitotic & meiotic cell division take place.

Embryogenesis

1. It is the formation of embryo from the zygote.
2. Embryo is a diploid cell.
3. Only mitotic division occurs.

15. Describe the post-fertilization changes in a flower.

Ans: In sexual reproduction, events that occur after the formation of zygote are called post-fertilization events. In flowering plants, the zygote is formed inside the ovule. After fertilization the sepals, petals and stamens of the flower wither and fall off. But the pistil remains attached to the plant. The zygote develops into the embryo and the ovules develop into the seed. The ovary develops into the fruit that develops a thick wall called pericarp which is protective in function. After dispersal, seeds germinate under favourable conditions to produce new plants.

16. What is a bisexual flower? Collect five bisexual flowers from your neighbourhood and with the help of your teacher find out their common and scientific names.

Ans: Flowers in which male and female sex organs (stamens and carpels) are borne on the same flowers are called bisexual flowers. You can observe following bisexual flowers in your kitchen and colony gardens:

- (i) Brassica (sarson) - *Brassica campestris*
- (ii) Onion - *Allium cepa*
- (iii) Garden Pea (Edible pea) - *Pisum sativum*
- (iv) Petunia - *Petunia hybrida*
- (v) China rose (shoe flower) - *Hibiscus rosa-sinensis*.

17. Examine a few flowers of any cucurbit plant and try to identify the staminate and pistillate flowers. Do you know any other plant that bears unisexual flowers?

Ans: The male or staminate flowers of cucurbits bear bright coloured petals and a prominent group of stamens. Male plants or staminate flowers do not bear fruits. The female or pistillate flowers

bear fruits. In a fertilised young pistillate flower very small fruit is visible below petals and sepals. Some unisexual plants are : Papaya, Mulberry and Date-palm.

18. Why are offspring of oviparous animals at a greater risk as compared to offspring of viviparous animals?

Ans: In oviparous animals, the development of the zygote takes place outside the body of the female parent whereas in viviparous animals, it takes place inside the body of the female. Because in oviparous animals, the fertilized eggs are laid in the open environment where they are not protected from the predators. Thus their survival rate is very less as compared to offspring of viviparous animals.

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