

HOLIDAY HOMEWORK BIOLOGY

1. The cell division involved in gamete formation is not of the same type in different organisms. Justify
2. Suggest a possible explanation why the seeds in a pea are arranged in a row whereas those in tomato are scattered in the juicy pulp.
3. Zygote forms the major link between one generation and those of the next generation organism. What is the fate of zygote in organisms which show
 - a) Haplontic life cycle
 - b) Diplontic life cycle
4. Describe the progress of events after syngamy of male and female gametes
5. Differentiate between
 - a) Hypocotyl and Epicotyl
 - b) Coleoptile and coleorrhiza
 - c) Perisperm and pericarp
6. Pea flowers produce assured seed set. Give reason.
7. Banana is a true fruit but is also a parthenocarpic fruit. Give reason.
8. Normally one embryo develops in one seed but when the orange seed is squeezed many embryos of different shapes and sizes are seen. How it has happened.
9. Although potato tuber is an underground plant part, it is considered as a stem. Give 2 reasons.
10. Can an unfertilized, apomictic embryo sac give rise to a diploid embryo
11. In case of polyembryony if an embryo develops from the synergid and another from the nucellus, which is haploid and which is diploid
12. Why are papaya and date palm plants said to be dioecious whereas cucurbits and coconut palms monoecious, in spite of all of them bearing unisexual flowers.
13. Why does the zygote begin to divide only after the division of primary endosperm cell.
14. Fertilization is not an obligatory event for fruit production in certain plants. Explain the statement.
15. Is pollination and fertilization necessary in apomixis. Give reasons.
16. Give reason why
 - a) Groundnut seeds are exalbuminous and castor seeds are albuminous.
 - b) Micropyle remains as a small pore in the seed coat of a seed
 - c) Integuments of an ovule harden and the water content is highly reduced as the seed matures.

17. Rose plants produce large attractive bisexual flowers but they seldom produce fruit. On the other hand lady's finger produces plenty of fruits. Analyse the reason for failure of fruit formation in rose.

18. Apomixis refers to the formation of seeds without fertilization. Mention any 2 ways in which seeds are formed.

19. Why does failure of testis to descend into the scrotum produce sterility.

20. Menstrual cycles are absent during pregnancy. Why?

21. Why does corpus luteum secrete large amount of progesterone during luteal phase of the menstrual cycle.

22. What name is given to the cells of inner cell mass that have the potential to give rise to all tissues and organs in a human being.