

**BHAVAN'S R.K.SARDA VIDYA MANDIR**  
**Summer Vacation Assignment questions (Biology): 2023-24**

**Class- XII**

**Chapter- Sexual reproduction in flowering plants**

1. During an excavation assignment, scientists collected pollen grains of a plant preserved in deeper layers of soil. Analyse the properties of pollen grains which help in the fossilization.
2. Explain three outbreeding devices.
3. Draw and label the enlarged view of microsporangium of an Angiosperm. State the function of its innermost wall layer.
4. "Apomixis is a form of asexual reproduction that mimics sexual reproduction in plants". Explain with the help of a suitable example.
5. Explain double fertilization

**Chapter - Human reproduction –**

1. Human female is not fertile after menopause whereas males can produce gametes at any age after puberty. Analyse the statement and schematically represent a comparison between gametogenesis in males and females.
2. After implantation interdigitation of maternal and foetal tissues takes place. Identify the tissues involved and justify their role.
3. 'Parturition is induced by a complex Neuro endocrine mechanism'. Justify
4. Why are the males whose testes fail to descend to the scrotum considered infertile?
5. List the names of the hormones, endocrine glands along with functions of the hormones that are crucial in causing spermatogenesis.

**Chapter- Reproductive health**

1. In case of an infertile couple, the male partner can inseminate normally but the mobility of sperms is below 40 percent. Judge, which kind of ART is suitable in this situation to form an embryo in the laboratory, without involving a donor?
2. State the composition and principle of oral pills as a contraceptive measure taking the example of Saheli.
3. Is the use of contraceptive justified? Give reason. Suggest methods to check the present population growth rate in India.
4. Lactational amenorrhea is a contraceptive method. List two advantages.
5. What is MTP?

**Chapter- Principle of inheritance and variation**

1. Give an example of a chromosomal disorder caused due to non-disjunction of autosomes. What are the symptoms of this disease.

2. If two genes are located far apart from each other on a chromosome, what will be its effect on the frequency of recombination?
3. Aneuploidy of chromosomes in human beings results in certain disorders. Draw out the possibilities of the karyotype in common disorders of this kind in human beings and its consequences in individuals.
4. In a dihybrid cross, white eyed, yellow bodied female *Drosophila* was crossed with red eyed, brown bodied male *Drosophila*. The cross produced 1.3 percent recombinants and 98.7 progeny with parental type combinations in the F<sub>2</sub> generation. Analyze the above observation and compare with the Mendelian dihybrid cross.
5. Why is it not possible to study the inheritance pattern of traits in human beings, the same way as it is done in pea plant? Name the alternate method employed for such an analysis of human traits.