

Summer Vacation Homework (Biology)

1. Complete the notes for the chapters:

- a) Reproduction in Flowering plants.
- b) Reproduction in Humans
- c) Reproductive Health (to be taught after Summer Vacation).

2. Prepare the Practical notebook w.r.t. above mentioned Practicals (Except that mentioned under A.3, B.6,8,10,11).

The Practicals must be in the following sequence - Aim, Materials required, Theory, Steps/Comments, Conclusion and Precautions.

Avoid writing dates in the index.

A. List of Experiments

1. Prepare a temporary mount to observe pollen germination.
2. Study the plant population density by quadrat method.
3. Study the plant population frequency by quadrat method.
4. Prepare a temporary mount of onion root tip to study mitosis.
5. Isolate DNA from available plant material such as spinach, green pea seeds, papaya, etc.

B. Study and observe the following (Spotting):

1. Flowers adapted to pollination by different agencies (wind, insects, birds).
2. Pollen germination on stigma through a permanent slide or scanning electron micrograph.
3. Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice).
4. Meiosis in onion bud cell or grasshopper testis through permanent slides.
5. T.S. of blastula through permanent slides (Mammalian).
6. Mendelian inheritance using seeds of different colour/sizes of any plant.
7. Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colour blindness.
8. Controlled pollination - emasculation, tagging and bagging.
9. Common disease causing organisms like *Ascaris*, *Entamoeba*, *Plasmodium*, any fungus causing ringworm through permanent slides, models or virtual images or specimens.
Comment on symptoms of diseases that they cause.

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10. Models specimen showing symbiotic association in root nodules of leguminous plants, *Cuscuta* on host, lichens.
 11. Flash cards models showing examples of homologous and analogous organs.