ATOMIC ENERGY CENTRAL SCHOOL – MYSORE

CLASS: 12 SESSION- 2025-26

SEXUAL REPRODUCTION IN FLOWERING PLANTS

WORKSHEET

1. Flowers with both androecium and gynoecium are called

1. Bisexual flowers
2. Anther
3. Stamens
4. Unisexual flowers

2. The transfer of pollen from the anther to stigma is called

1. Pollination
2. Fertilization
3. Adoption
4. Diffusion

3. The fusion of female reproductive nucleus with the male reproductive nucleus is known as

1. Adoption
2. Excretion
3. Fertilization
4. Regeneration

4. The two nuclei at the end of the pollen tube are called

1. Tube nucleus and a generative nucleus
2. Sperm and ovum
3. Generative nucleus and stigma
4. Tube nucleus and sperm

5. Generative nucleus divides forming

1. 2 male nuclei
2. 3 male nuclei
3. 2 female nuclei
4. 3 female nuclei

6. Embryo sac is located inside the

1. Stigma
2. Ovule
3. Micropyle
4. Style

7. One nucleus of the pollen tube and secondary nucleus of the ovum grow into

1. Stigma
2. Endosperm
3. Anther
4. Stamen

8. The stalk of Datura flower at its base is known as

1. Pedicel
2. Corolla
3. Sepals
4. Thalamus

9. The male reproductive parts of a flower, the stamens, are collectively known as

1. Androecium
2. Filament
3. Anther
4. Gynoecium

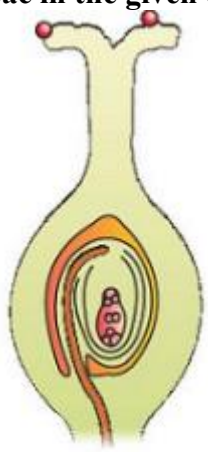
10. The other name for gynoecium is

1. Pistil
2. Stigma
3. Androecium
4. Style

One mark questions:

Q.1. What are the component cells of the egg apparatus in an embryo sac?
Q.2. Which part of gynoecium determines the compatible nature of pollen grain?
Q.3. What is common in the function performed by nucellus and cotyledon?
Q.4. Fill in the missing words:
Pollen mother cell → Pollen tetrad → Pollen grain → Vegetative cell, ___?____
Q.5. In the following events, indicate the stages where mitosis and meiosis occur (1,2,3).
Megaspore mother cell →(1)→Megaspores→(2)→Embryo sacs→(3)→Egg

Q.6. Show the direction of the pollen tube from the pollen on the stigma in the embryo sac in the given diagram.



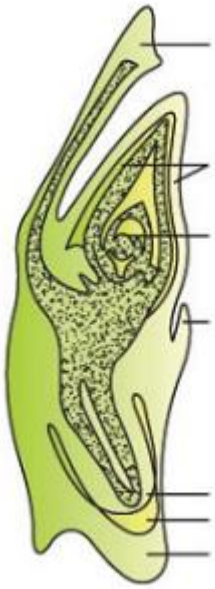
Q.7. Which regions of pistil form fruits and seeds?
Q.8. During polyembryony, if one embryo is formed from synergids and the other from nucellus, state the one that is haploid and the one that is diploid.
Q.9. Is it possible that an unfertilized apomictic embryo sac gives rise to a diploid embryo? Give a reason in support of your answer.
Q.10. When a pollen grain is shed at the 3-celled stage, which three cells are found?

Two mark questions:

Q.1. How does a chasmogamous bisexual flower prevent self-pollination?
Q.2. Arrange them sequentially according to how they appear in the artificial hybridization programme.

1. **Rebagging**
2. **Selection of parents**
3. **Bagging**
4. **Dusting the pollen on the stigma**
5. **Emasculation**
6. **Collection of pollen**

Q.3. How do self-incompatibility restrict autogamy? How does pollination occur in such plants?
Q.4. Label the following diagram.



Q.5. Explain the term polyembryony. How is it exploited commercially?
Q.6. Is there any difference between apomixis and parthenocarpy? Explain the benefits of each.

Q.7. The zygote divides only after the division of the primary endosperm cell. Give reasons in support of the statement.
Q.8. Why is it that the generative cell of 2-celled pollen divides in a pollen tube and not of 3-celled pollen?

Q.9. Label the following parts in the diagram given below:
Male gametes, egg cell, polar nuclei, synergid, pollen tube.

Q.10.Explain the events which occur after the process of fertilization in plants.

Three mark questions:

Q.1. Explain the pollination occurring in the chasmogamous flowers.

Q.2. Describe the structure of the embryo sac of a mature angiosperm. Explain the role of synergids in it.

Q.3. How is it that the embryo sacs of some apomictic species look normal but contain diploid cells?

Q.4. What are the characteristics of wind, water and insect-pollinated flowers?

Q.5. Explain the structure of the pollen.

Five mark questions:

1. **What are the characteristics of wind, water and insect-pollinated flowers?**
2. **Describe the structure of the embryo sac of a mature angiosperm. Explain the role of synergids in it.**
3. **Explain the pollination occurring in the chasmogamous flowers.**
4. **i) Explain the structure of a maize grain with the help of a diagram**
   ii) Why cannot we use the term maize seeds for maize grains?
5. **Trace the development of megasporocyte into mature ovule.**