SAINIK SCHOOL GOPALGANJ
SUB: BIOLOGY
CLASS - XII

ASSIGNMENT- 2

Chapter - Sexual Reproduction in Flowering Plants

Q.1 Given below are four options against each question. Choose the option which you consider the most appropriate as your answer.

1.1 Choose the correct statement.
i. Filiform apparatus plays an important role in guiding the pollen tube into synergids.
ii. Intine is made up of sporopollenin
iii. The stalk of the ovule is called funicle
(a) ii only (b) i only (c) i and iii (d) i and ii

1.2 Egg apparatus consists of
(a)Two egg cells and one synergid (b) One egg cell and one synergid
(c) One egg cell and two antipodal cells (d) One egg cell and two synergids

1.3 A parthenocarpic fruit is
(a) Apple (b) Strawberry (c) Banana (d) Cashew nut

1.4 Select the correct sequence of hybridization.
(a) Selection of parents, pollination, bagging, emasculation
(b) Selection of parents, emasculation, bagging, pollination
(c) Bagging, selection of parents, pollination, emasculation
(d) Bagging, emasculation, pollination, selection of parents

1.5 Remnants of nucellus is called----------
(a) Scutellum (b) Perisperm (c) Pericarp (d) Coleoptile

1.6 Larger cell of pollen grain with irregular shape nucleus is
(a) Generative cell (b) Vegetative cell (c) Apical (d) Basal cell

1.7 Ovule is attached to placenta by
(a) Pedicel (b) Hilum (c) Funicle (d) Integument

1.8 The pedicel of female flower coils after pollination in
(a) Lotus (b) Hydrilla (c) Vallisneria (d) Trapa

1.9 Development of seed without fertilization is called
(a) Parthenogenesis (b) Apomixes (c) Parthenocarpy (d) sexual reproduction

1.10 Water hyacinth is pollinated by
(a) Water (b) Wind (c) Insects (d) Both wind and insects

Answer the following questions.

2. Geitonogamy is functionally a cross pollination but genetically similar to autogamy. Explain.

3. Write the differences between in wind pollination and insect pollination.

4. Draw a labeled diagram of a typical anatropous ovule.

5. Where is sporopollenin present in plant? State its significance with reference to its chemical nature.

6. Why should a bisexual flower be emasculated and bagged prior to artificial pollination?

7. A flower of tomato plant following the process of sexual reproduction produces 240 viable seeds. Answer the following
   (a)What is the minimum, number of pollen grains that must have been involved in the pollination of its pistil?
   (b) What would have been the minimum number of ovules present in ovary?
   (c)How many megaspore mother cells were involved?
   (d) How many male gametes were involved in this case?

8 (a) Draw a labeled diagram of a mature embryo sac.
   (b) Why does pollen grain possess two male gametes? Explain.

9. Why is fertilization in an angiosperm referred to as double fertilization? Mention the ploidy of the cells involved.

10. Explain the development of the zygote into an embryo and of the primary endospermic nucleus into an endosperm in a fertilized embryo sac of a dicot plant.

11. (a) Why are seeds of some grasses called apomictic? Explain.
   (b) State two reasons to convince a farmer to use an apomictic crop.

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