

Sexual Reproduction in Flowering Plants — Assignment 1

Class 12 Biology · Topic-wise question bank covering every concept of the chapter · Narayan Gurukul Academy

Instructions: (1) Attempt all questions. This worksheet walks through every concept of the chapter, topic by topic.
(2) The interactive MCQ version of these questions (with instant answer reveal) is available on the notes page.
(3) Universal values: $g = 10 \text{ m/s}^2$ unless stated. Give answers with correct SI units.

Structure of a Flower and Reproductive Organs

MCQ Questions (choose the correct option)

- The male reproductive organ of a flower is the
 - stamen
 - carpel
 - style
 - ovary
- The female reproductive organ of a flower is the
 - carpel
 - stamen
 - anther
 - filament
- The transfer of pollen to the stigma is called
 - pollination
 - fertilisation
 - germination
 - syngamy
- The ovary develops into the
 - fruit
 - seed coat
 - embryo
 - endosperm

1 Mark Questions

- Name the male reproductive organ of a flower.
- Name the female reproductive organ of a flower.
- What is pollination?

2 Mark Questions

- Draw the labelled structure of a typical flower.
- Distinguish between self-pollination and cross-pollination.

3 Mark Questions

- Describe the structure of a typical angiosperm flower.
- Explain the parts of the stamen and carpel.

Microsporogenesis and the Male Gametophyte

MCQ Questions (choose the correct option)

1. Microsporangia are found in the
 - (A) anther
 - (B) ovule
 - (C) ovary
 - (D) style
2. The pollen mother cell undergoes meiosis to form
 - (A) microspore tetrad
 - (B) embryo sac
 - (C) endosperm
 - (D) zygote
3. The inner layer of the microsporangium is the
 - (A) tapetum
 - (B) epidermis
 - (C) endothecium
 - (D) middle layer
4. The mature pollen grain is the
 - (A) male gametophyte
 - (B) female gametophyte
 - (C) sporophyte
 - (D) gamete

1 Mark Questions

1. Where are microsporangia found?
2. What is the function of the tapetum?
3. How many cells are in a mature pollen grain?

2 Mark Questions

1. Name the layers of a microsporangium.
2. Describe the structure of a mature pollen grain.

3 Mark Questions

1. Explain microsporogenesis.
2. Describe the development of the male gametophyte.

Megasporogenesis and the Female Gametophyte

MCQ Questions (choose the correct option)

1. Megasporangium is the
 - (A) ovule
 - (B) anther
 - (C) ovary
 - (D) style
2. The embryo sac is the

- (A) female gametophyte
 - (B) male gametophyte
 - (C) sporophyte
 - (D) gamete
3. The number of cells in a mature embryo sac is
- (A) 7
 - (B) 4
 - (C) 8
 - (D) 6
4. The central cell of the embryo sac contains
- (A) two polar nuclei
 - (B) one nucleus
 - (C) three nuclei
 - (D) four nuclei

1 Mark Questions

1. What is the megaspore mother cell?
2. How many nuclei are in a mature embryo sac?
3. What is the female gametophyte called?

2 Mark Questions

1. Describe the structure of an ovule.
2. Explain the 7-celled, 8-nucleate nature of the embryo sac.

3 Mark Questions

1. Explain megasporogenesis.
2. Describe the development of the female gametophyte.

Pollination and Its Agents

MCQ Questions (choose the correct option)

1. Pollination by insects is called
 - (A) entomophily
 - (B) anemophily
 - (C) hydrophily
 - (D) cleistogamy
2. Cleistogamous flowers are
 - (A) never opening
 - (B) always open
 - (C) unisexual
 - (D) wind pollinated
3. Water pollination is called
 - (A) hydrophily
 - (B) anemophily
 - (C) entomophily

(D) ornithophily

4. Self-pollination within the same flower is

(A) autogamy

(B) geitonogamy

(C) xenogamy

(D) hybridisation

1 Mark Questions

1. What is pollination?

2. What are cleistogamous flowers?

3. Name one abiotic pollinating agent.

2 Mark Questions

1. Distinguish between autogamy and geitonogamy.

2. Mention two adaptations of wind-pollinated flowers.

3 Mark Questions

1. Describe the types of pollination.

2. Describe the agents of pollination with examples.

Double Fertilization

MCQ Questions (choose the correct option)

1. Fusion of male and female gametes is called

(A) syngamy

(B) triple fusion

(C) pollination

(D) germination

2. Triple fusion forms the

(A) primary endosperm nucleus

(B) zygote

(C) embryo

(D) seed coat

3. The zygote is

(A) diploid

(B) triploid

(C) haploid

(D) tetraploid

4. The endosperm nucleus is

(A) triploid

(B) diploid

(C) haploid

(D) tetraploid

1 Mark Questions

1. What is syngamy?
2. What is triple fusion?
3. What is the ploidy of the endosperm?

2 Mark Questions

1. Why is fertilisation called double fertilisation in angiosperms?
2. What are the products of double fertilisation?

3 Mark Questions

1. Describe the process of double fertilisation.
2. Explain the significance of double fertilisation.

Post-Fertilization Changes

MCQ Questions (choose the correct option)

1. The ovule after fertilisation becomes the
 - (A) seed
 - (B) fruit
 - (C) flower
 - (D) endosperm
2. The ovary after fertilisation becomes the
 - (A) fruit
 - (B) seed
 - (C) embryo
 - (D) nucellus
3. The seed coat develops from the
 - (A) integuments
 - (B) nucellus
 - (C) pericarp
 - (D) endosperm
4. A seed without endosperm is called
 - (A) non-albuminous
 - (B) albuminous
 - (C) perispermous
 - (D) apomictic

1 Mark Questions

1. What does the ovule become after fertilisation?
2. What does the ovary become after fertilisation?
3. What are albuminous seeds?

2 Mark Questions

1. Distinguish between albuminous and non-albuminous seeds.
2. Describe the structure of a typical monocot seed.

3 Mark Questions

1. Describe the post-fertilisation changes in the ovule and ovary.
2. Describe the structure of a dicot embryo.

Apomixis, Polyembryony and Pollen Application

MCQ Questions (choose the correct option)

1. Production of seeds without fertilisation is
 - (A) apomixis
 - (B) polyembryony
 - (C) parthenocarpy
 - (D) syngamy
2. More than one embryo in a seed is
 - (A) polyembryony
 - (B) apomixis
 - (C) parthenocarpy
 - (D) apospory
3. Fruit development without fertilisation is
 - (A) parthenocarpy
 - (B) apomixis
 - (C) polyembryony
 - (D) syngamy
4. Apomixis is useful because it
 - (A) preserves hybrid vigour
 - (B) increases variation
 - (C) reduces yield
 - (D) prevents growth

1 Mark Questions

1. What is apomixis?
2. What is polyembryony?
3. What is parthenocarpy?

2 Mark Questions

1. Give one example of polyembryony.
2. State two advantages of apomixis in agriculture.

3 Mark Questions

1. What is apomixis? Discuss its importance in plant breeding.
2. Explain polyembryony with an example.