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CBSE Class 12 · Biology

Sexual Reproduction in Flowering Plants

10 most probable questions for Boards 2027

Q1. 0.5 marks · Very short answer

What role do flowers play in sexual reproduction in angiosperms?

Answer

Flowers are the sites of sexual reproduction in angiosperms, where male and female reproductive units develop.

Q2. 1 mark · Very short answer

Name the innermost wall layer of a microsporangium and state its function.

Answer

The tapetum is the innermost wall layer of a microsporangium; it nourishes the developing pollen grains.

Q3. 1.5 marks · Short answer

State what the primary endosperm cell and the zygote develop into.

Answer

The primary endosperm cell (PEC) develops into the endosperm, which contains reserve food materials used for the nutrition of the developing embryo. The zygote develops into an embryo.

Q4. 2 marks · Short answer

What is a pollen grain, and what is its reproductive significance in flowering plants?

Answer

A pollen grain is the male gametophyte of a flowering plant. It develops from a microspore and carries the male reproductive cells, which reach the ovule through pollen-tube growth for fertilisation.

Q5. 3 marks · Medium answer

Explain the conditions required for autogamy. How do cleistogamous flowers ensure seed set even when pollinators are absent?

Answer

1. Autogamy is the transfer of pollen grains from the anther to the stigma of the same flower. Pollen release and stigma receptivity must coincide, and the anther and stigma must be positioned so pollen can reach that stigma.
2. Cleistogamous flowers remain closed and are invariably autogamous, with no chance of cross-pollen landing on the stigma. Their self-pollination ensures seed-set even when pollinators are absent.

Q6. 4 marks · Long answer

Explain how an ovule and ovary develop after fertilisation, naming the resulting structures and the fruit wall. Distinguish true fruits from false fruits, and explain parthenocarpy with one example.

Full answer on SmartKalike: https://smartkalike.com/cbse/class-12/biology/sexual-reproduction-in-flowering-plants

Q7. 5 marks · Long answer

Distinguish between geitonogamy and xenogamy with reference to the source of pollen and their genetic significance.

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Q8. 8 marks · Very long answer

Describe how the integuments contribute to the mature seed and state the role of the micropyle during germination. Explain how seed maturation changes water content and embryo metabolism, and distinguish dormancy from germination by stating the conditions needed for germination.

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Q9. 0.5 marks · Very short answer

What is floriculture?

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Q10. 1 mark · Multiple choice

Megasporogenesis is the process by which: (A) a megaspore mother cell undergoes meiosis to form megaspores (B) a functional megaspore undergoes mitosis to form an embryo sac (C) an ovule develops into a seed (D) a pollen grain forms two male gametes

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