EXAM-DAY · 90-MIN REVISION CARD

Sexual Reproduction in Flowering Plants

Print this · Fold it · Carry to the exam-hall gate · Revise once · Then walk in.

FORMULAS & KEY RESULTS

Flower whorls: Calyx (sepals) → Corolla (petals) → Androecium (stamens) → Gynoecium (carpels/ pistils)

Stamen = Filament + Anther. Anther typically dithecous (2 lobes) with 4 microsporangia each

Microsporogenesis: Microsporocyte (2n) → meiosis → 4 microspores (n) → mature pollen grain

Pollen grain: 2-celled (vegetative + generative) at shedding ; 3-celled when generative divides mitotically

Ovule: Outer + inner integument, nucellus, embryo sac, micropyle, chalaza, funicle, hilum

Megasporogenesis: Megaspore mother cell (2n) → meiosis → 4 megaspores (n) → only 1 functional → embryo sac

Mature embryo sac (Polygonum type): 7 cells, 8 nuclei = 1 egg + 2 synergids + 3 antipodals + 1 central cell (with 2 polar nuclei)

Pollination types: Autogamy (self) · Geitonogamy (same plant, different flower) · Xenogamy (different plant)

Outbreeding devices: Dichogamy · Self-incompatibility · Heterostyly · Unisexual flowers (monoecy/dioecy)

Double fertilisation: M.G. 1 + egg → zygote (2n) ; M.G. 2 + 2 polar nuclei → PEN (3n)

Post-fertilisation: zygote → embryo ; PEN → endosperm ; integuments → seed coat ; ovule → seed ; ovary → fruit

Apomixis = seed without fertilisation. Polyembryony = many embryos in one seed.

TOP 5 PYQ PATTERNS

1 Labeled embryo sac diagram
5 marks · 95% of years
Draw oval; micropylar end at top with egg apparatus; chalazal end with 3 antipodals; central cell with 2 polar nuclei. Label everything. State 7 cells, 8 nuclei.

2 Double fertilisation — process + significance
5 marks · 85% of years
5-step template: tube delivery → syngamy → triple fusion → why 'double' → significance (5 points).

3 Outbreeding devices
3 marks · 70% of years
List + explain 3: dichogamy, self-incompatibility, heterostyly (or monoecy/dioecy).

4 Pollen grain structure
3 marks · 50% of years
Exine (with germ pores) + intine + cytoplasm + vegetative cell + generative cell. Mention pollenkitt if asked.

5 Apomixis vs polyembryony
3 marks · 40% of years
Define both, state difference, give example each (citrus polyembryony, some grasses apomixis).

90-MIN REVISION FLOW

0–15 min
Draw the 8-nucleate 7-celled embryo sac diagram from memory. Repeat 3 times until under 5 minutes.

15–30 min
Recite double fertilisation 5-step template. Memorise ploidy: zygote 2n, endosperm 3n.

30–45 min
List 4 outbreeding devices with mechanism + example. Draw simple diagrams for dichogamy + heterostyly.

45–60 min
Compare microsporogenesis vs megasporogenesis in a 2-column table.

60–75 min
Take 15-MCQ Quick Drill under 20-min timer. Target ≥ 12/15.

75–90 min
Review wrong answers. Re-draw any failed diagrams from memory.

Confidence, not anxiety. You've practised this all year. Trust your steps. Don't change strategy on exam morning. Helpline: **+91 70330 05444** · **readyforboards.com**