



QUESTION WORKBOOK

Sexual reproduction in flowering plants

Cell cycles, reproduction and development · Unit B06

Edexcel B 2.5 i, 2.5 ii, 2.5 iii

12 questions · 35 marks

NAVY SCREEN EDITION

Every question in this book has a code beside its number.
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SECTION A · Short, 1 to 2 marks**A1**

SRF-Q7

Explain why the endosperm of a seed is triploid.

[2]

A2

SRF-Q9

In one field of view a student counts 48 pollen grains, 30 of which have a pollen tube longer than the diameter of the grain. Calculate the percentage of grains that have germinated.

[2]

A3

SRF-Q12

Explain why the two male nuclei delivered by one pollen tube are genetically identical to each other.

[2]

A4

SRF-Q13

The endosperm develops only after a male nucleus has fused with the polar nuclei. Suggest an advantage to the plant of the endosperm forming in this way rather than before fertilisation.

[2]

SECTION B · Standard, 3 to 5 marks

B1 Describe how a pollen grain containing two male nuclei develops from a pollen mother cell in the anther. [4]
SRF-Q1

B2 Describe how the embryo sac forms inside an ovule. [4]
SRF-Q2

B3 After pollination, the male nuclei have to travel from the stigma to the embryo sac. Explain the roles of the tube nucleus, the pollen tube and the enzymes it secretes in getting them there. [4]
SRF-Q3

B4 Describe the process of double fertilisation in a flowering plant. [3]
SRF-Q4

B5

SRF-Q6

State the function of each of these parts of a flower: the anther, the stigma and the ovary. [3]

B6

SRF-Q10

Describe how a student could measure the mean length of pollen tubes growing on a microscope slide. [3]

B7

SRF-Q11

Compare the formation of pollen grains in the anther with the formation of the embryo sac in the ovule. [3]

B8

SRF-Q14

A pea flower is pollinated and later produces a pod containing seeds. Explain which parts of the flower become the seeds, the seed coats and the pod. [3]

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