

4 Meiosis and mitosis are involved in cell division.

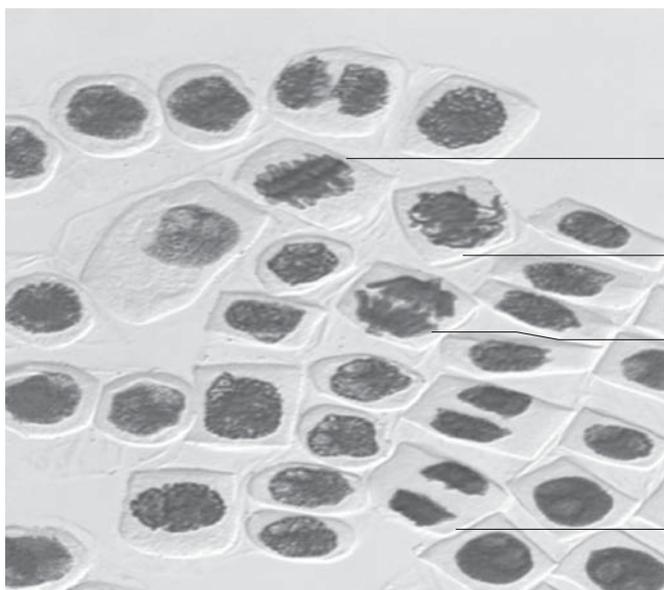
(a) The table below gives some statements about cell division. Place a tick (✓) in the box if **meiosis** is involved.

(2)

Statements about cell division	Meiosis is involved
Required for both sexual and asexual reproduction	
Produces gametes	
Crossing over can occur	
Occurs in mammals but not flowering plants	

(b) The photograph below shows some cells undergoing **mitosis**. Each of the cells A, B, C and D is in a different stage of mitosis. Write the name of the stage next to the appropriate letter.

(4)



A

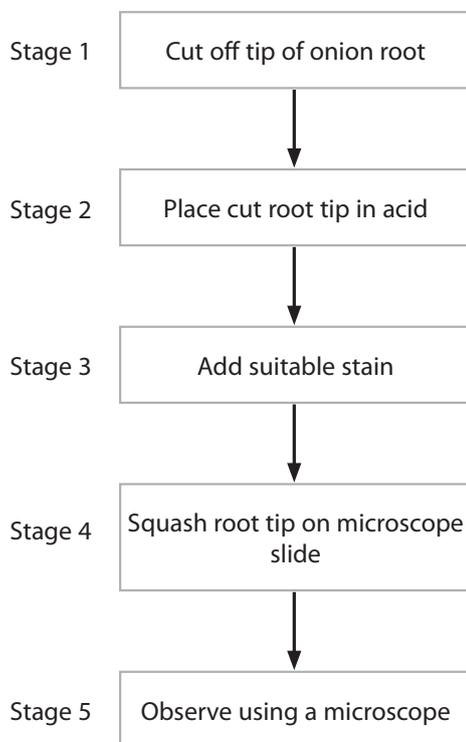
B

C

D



(c) The diagram below shows some stages in the production of a root tip squash to observe mitosis.



(i) Suggest why the **tip** of the onion root is used.

(1)

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(ii) Suggest why acid is used in stage 2.

(1)

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(iii) Name a suitable stain for the root tip squash.

(1)

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(iv) There are various risks associated with the production of a root tip squash. Suggest **two** risks and the precautions you would take to minimise each risk.

(2)

1

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2

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(Total for Question 4 = 11 marks)

