

Paper Reference(s) 9BI0/03
Pearson Edexcel Level 3 GCE

Biology B

Advanced

PAPER 3: General and Practical Principles in Biology

Diagram Booklet

INSTRUCTIONS

**THIS DIAGRAM BOOKLET MUST NOT BE RETURNED WITH
THE QUESTION PAPER AT THE END OF THE EXAMINATION.**

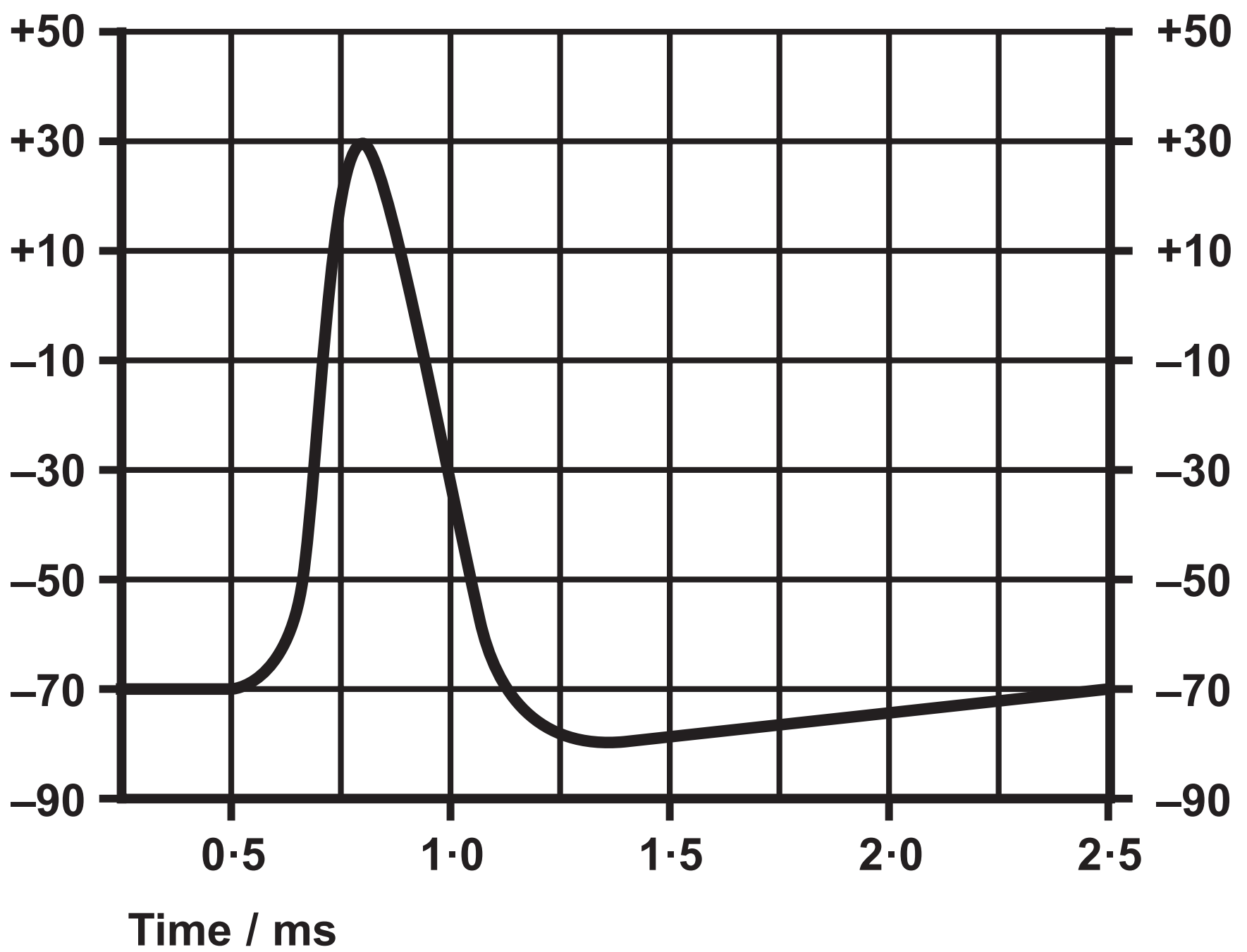
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Question 1(a)(ii)

Membrane
potential / mV



Question 1(b)

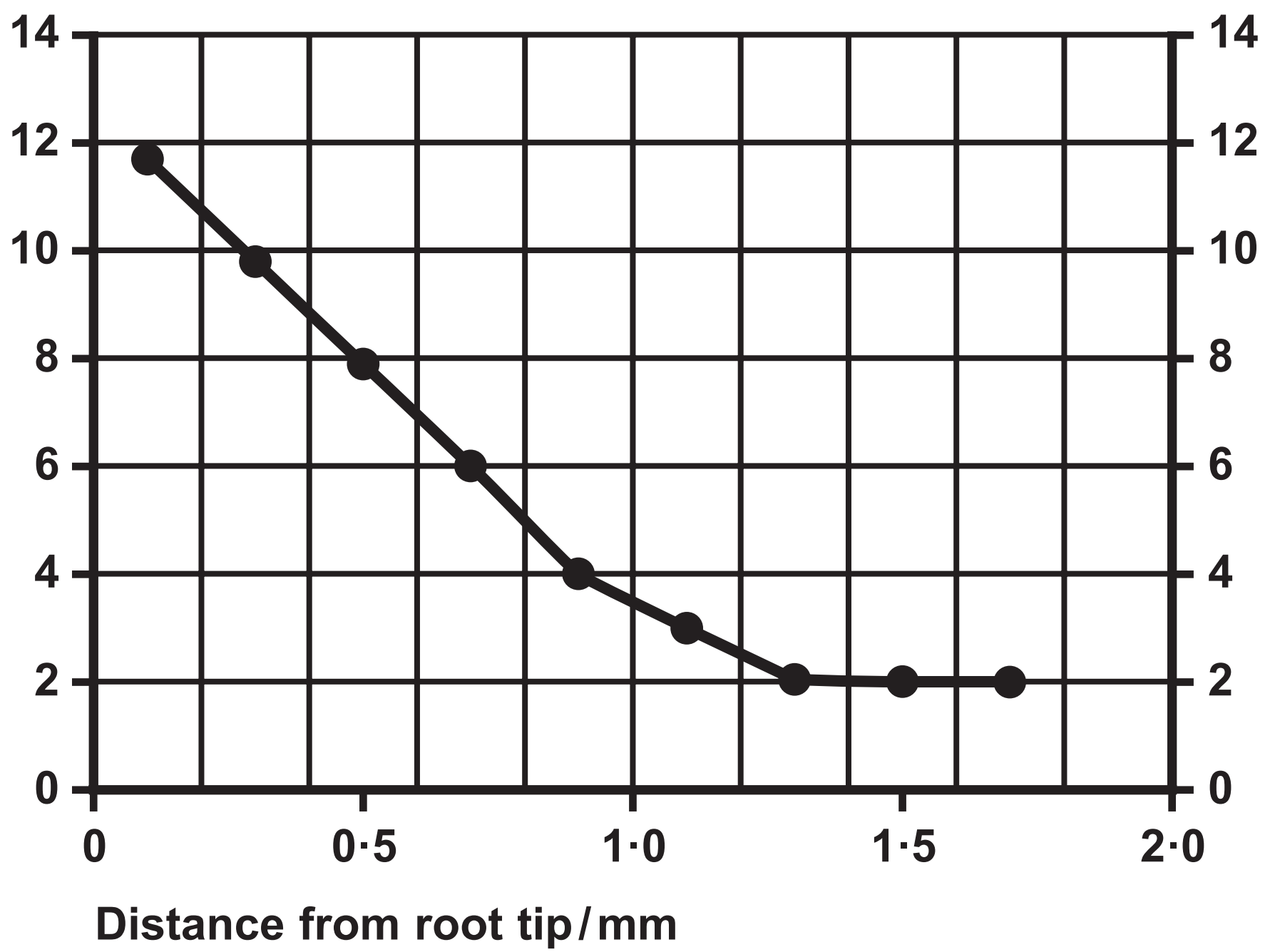
Stimulus voltage / mV	Response
25	No action potential
35	No action potential
45	No action potential
55	Action potential
65	Action potential
75	Action potential

Question 2(a)

Number of cells at each stage of the cell cycle				
Prophase	Metaphase	Anaphase	Telophase	Interphase
4	2	1	1	90

Question 2(a)(ii)

Mitotic
index



Question 3(a)

Colour of indicator	Relative carbon dioxide concentration
yellow	highest
orange	higher than atmospheric air
red	same as atmospheric air
magenta	lower than atmospheric air
purple	lowest

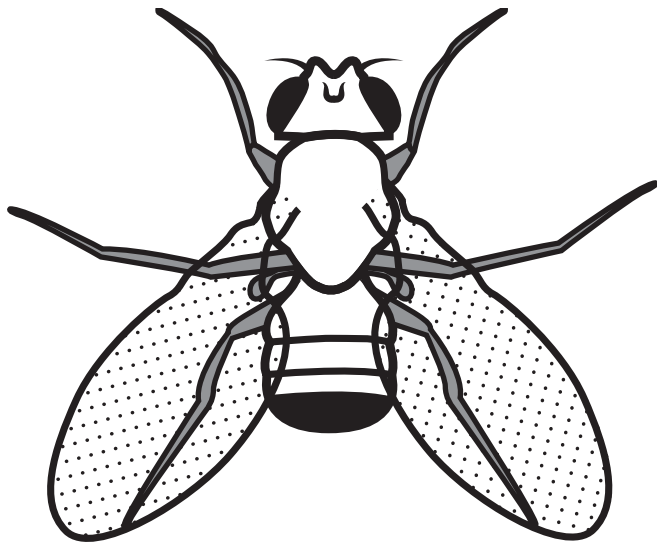
Question 3(a)

Distance from lamp / cm	5	15	25	35	45
Colour of indicator after 30 minutes	purple	purple	red	orange	orange
Position of gel beads in tube after 30 minutes	half-way up	less than half-way up	bottom	bottom	bottom

Question 4

Actual size = 3 mm

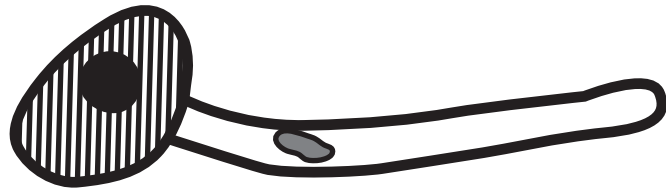
Male



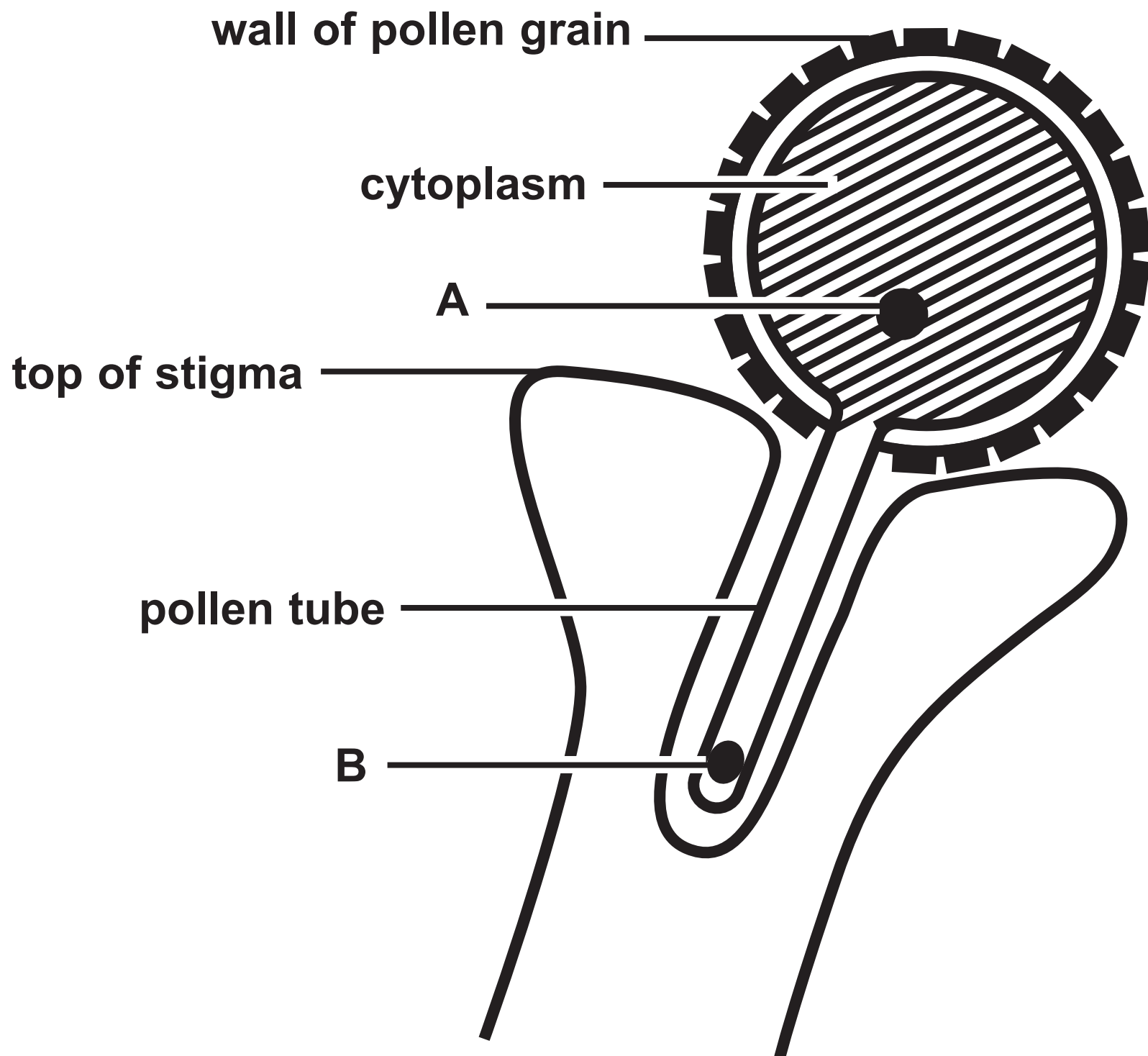
Female



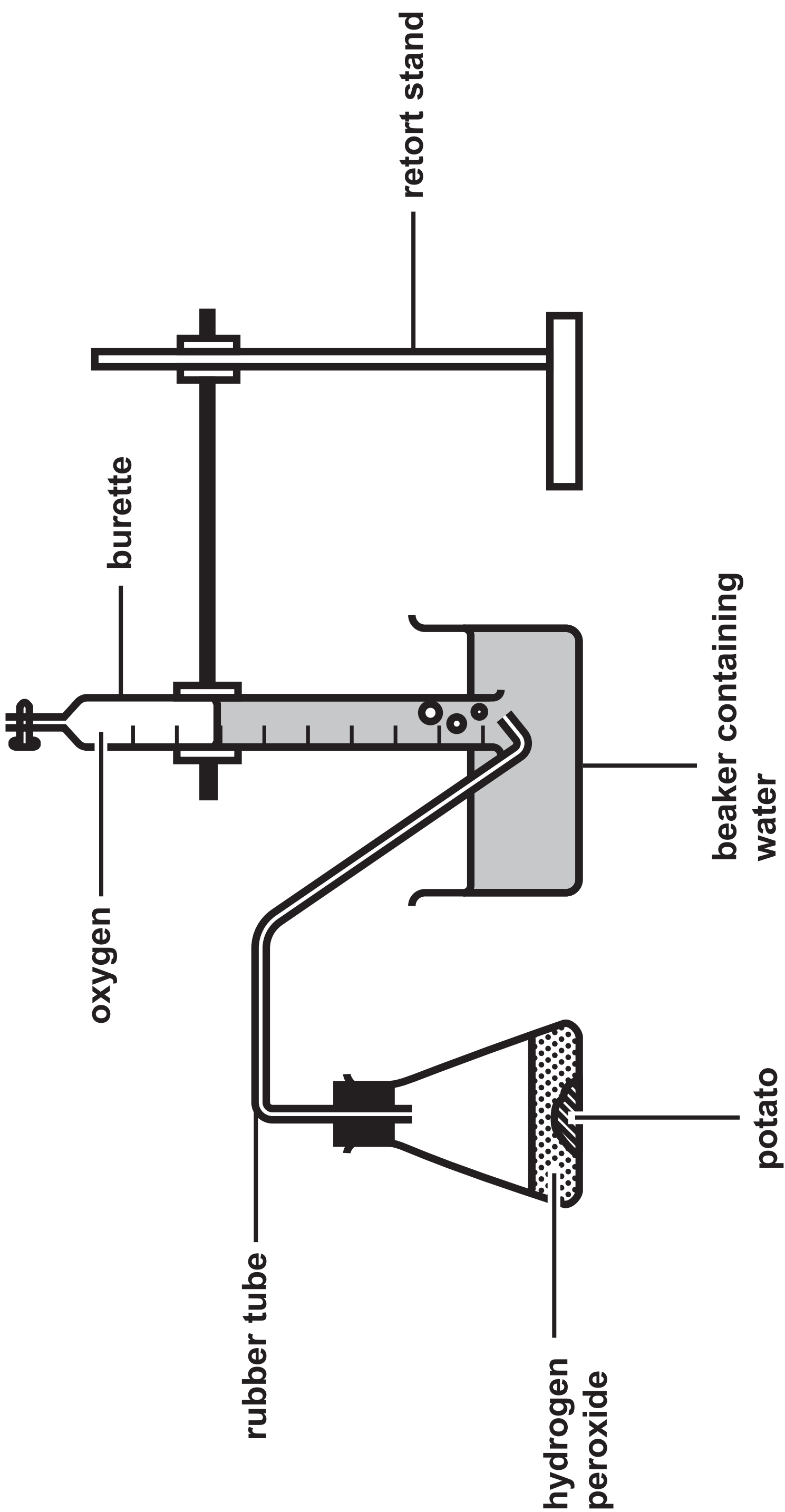
Question 5(a)



Question 5(b)(i)

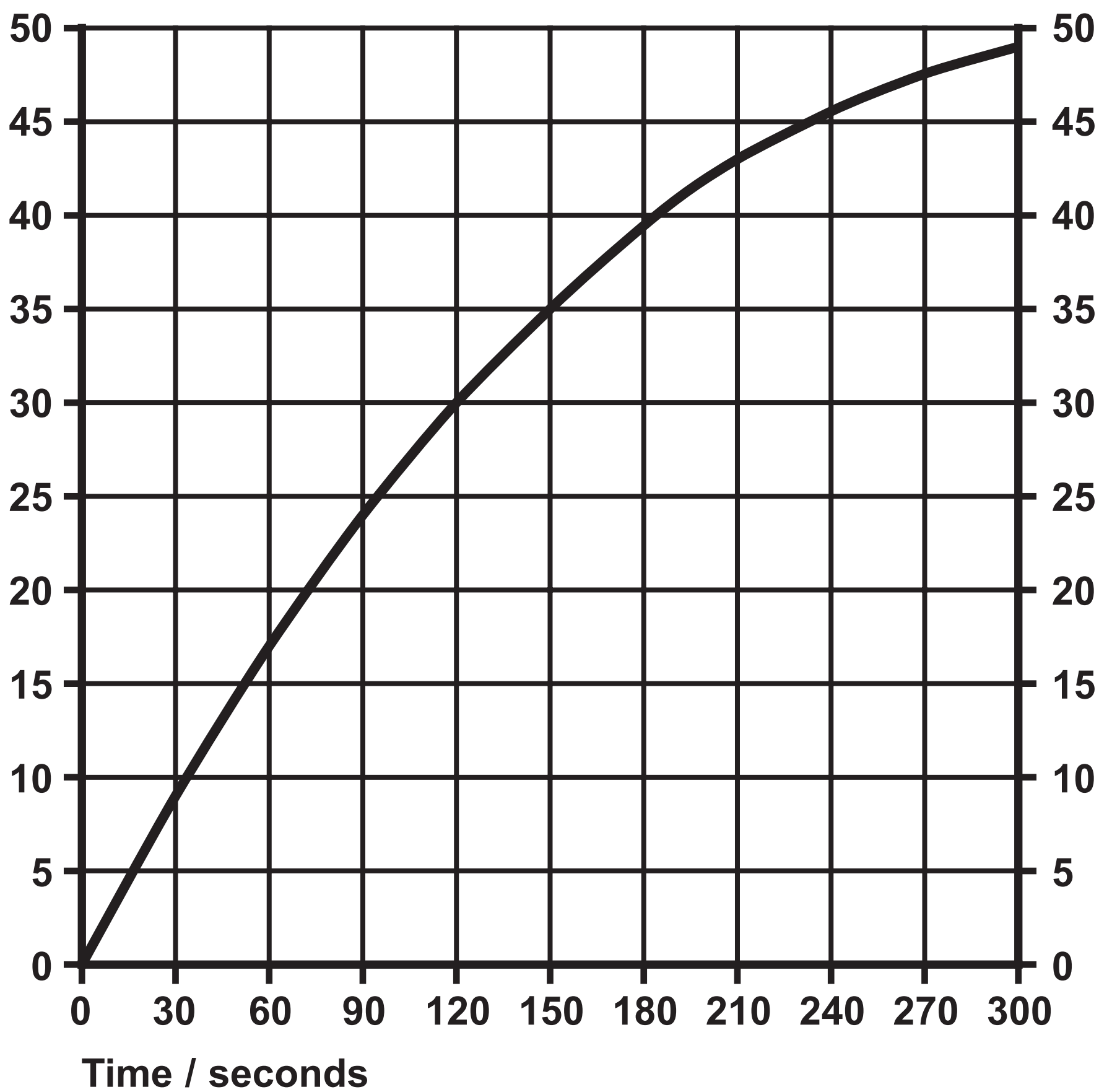


Question 8(b)

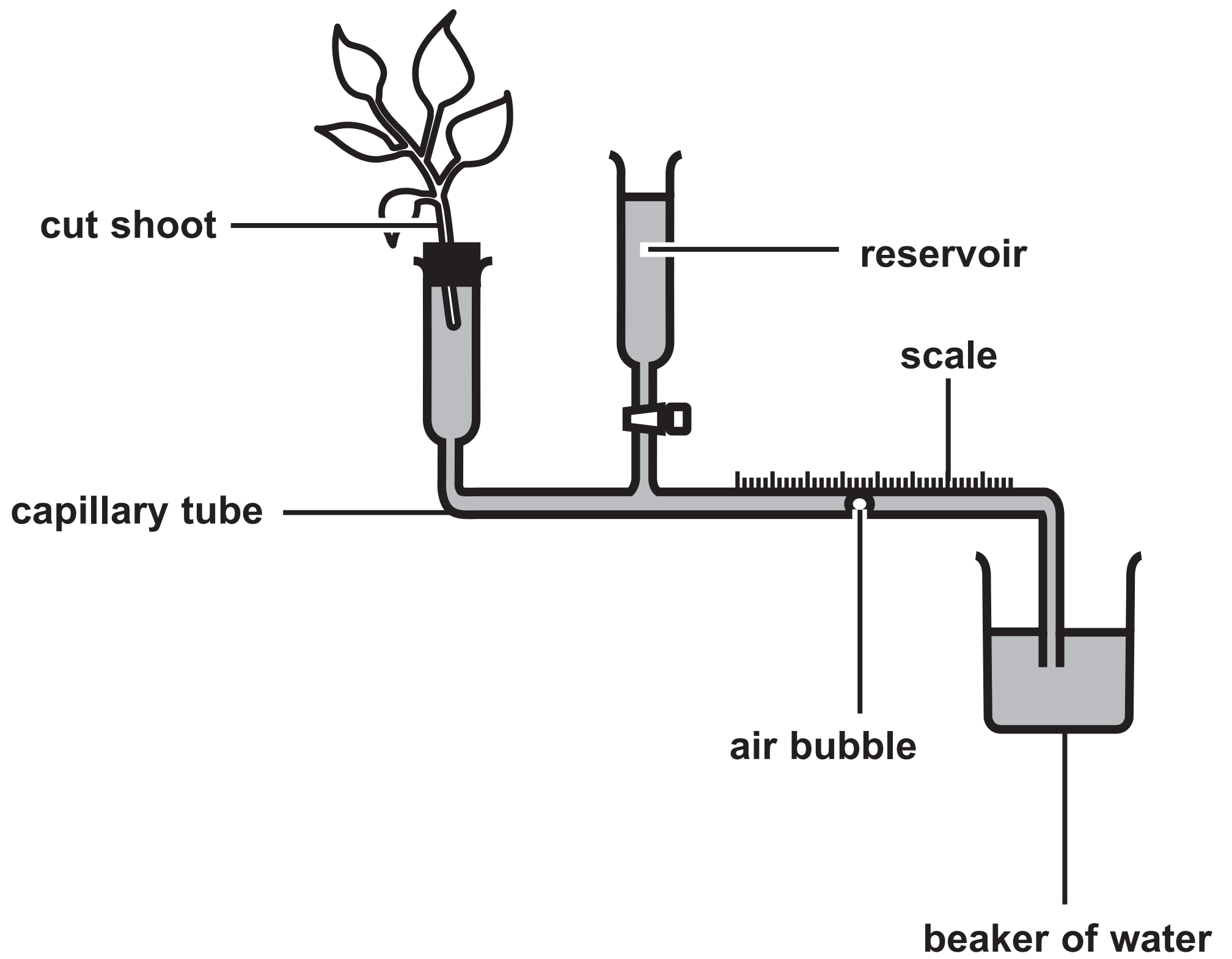


Question 8(b)(ii)

Volume of oxygen
produced / cm^3



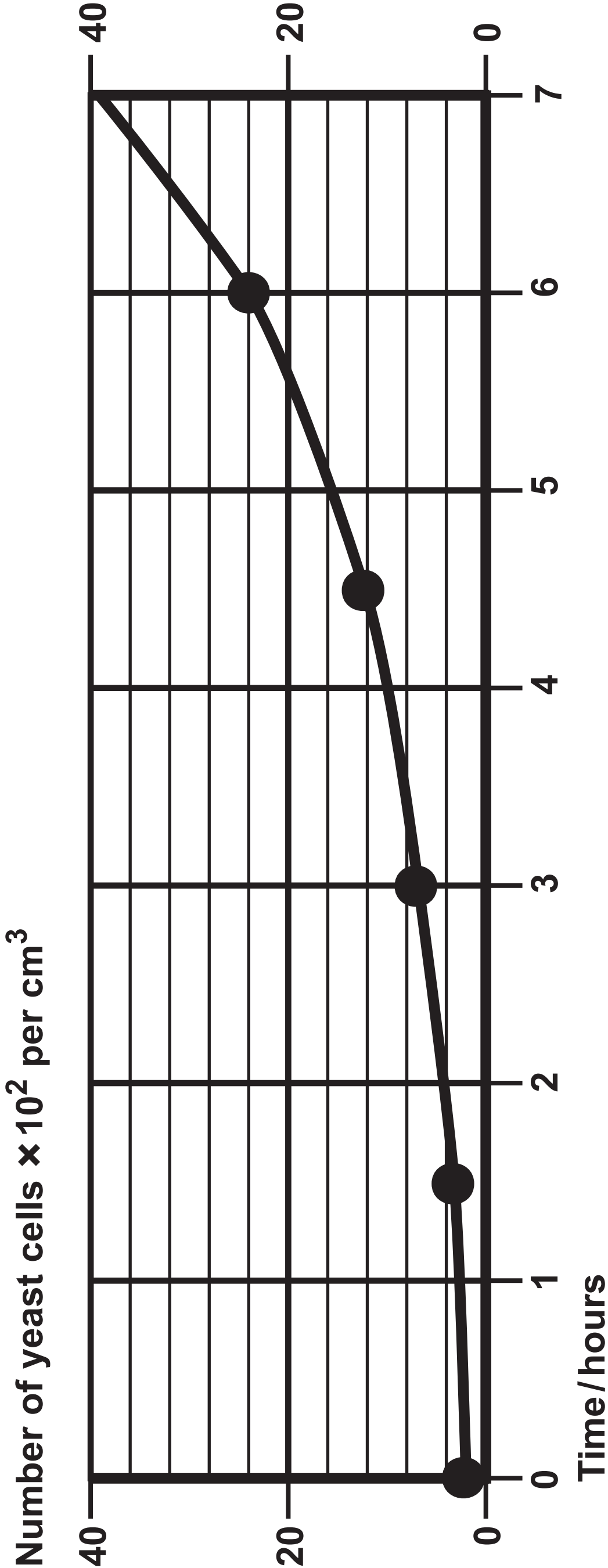
Question 9(b)



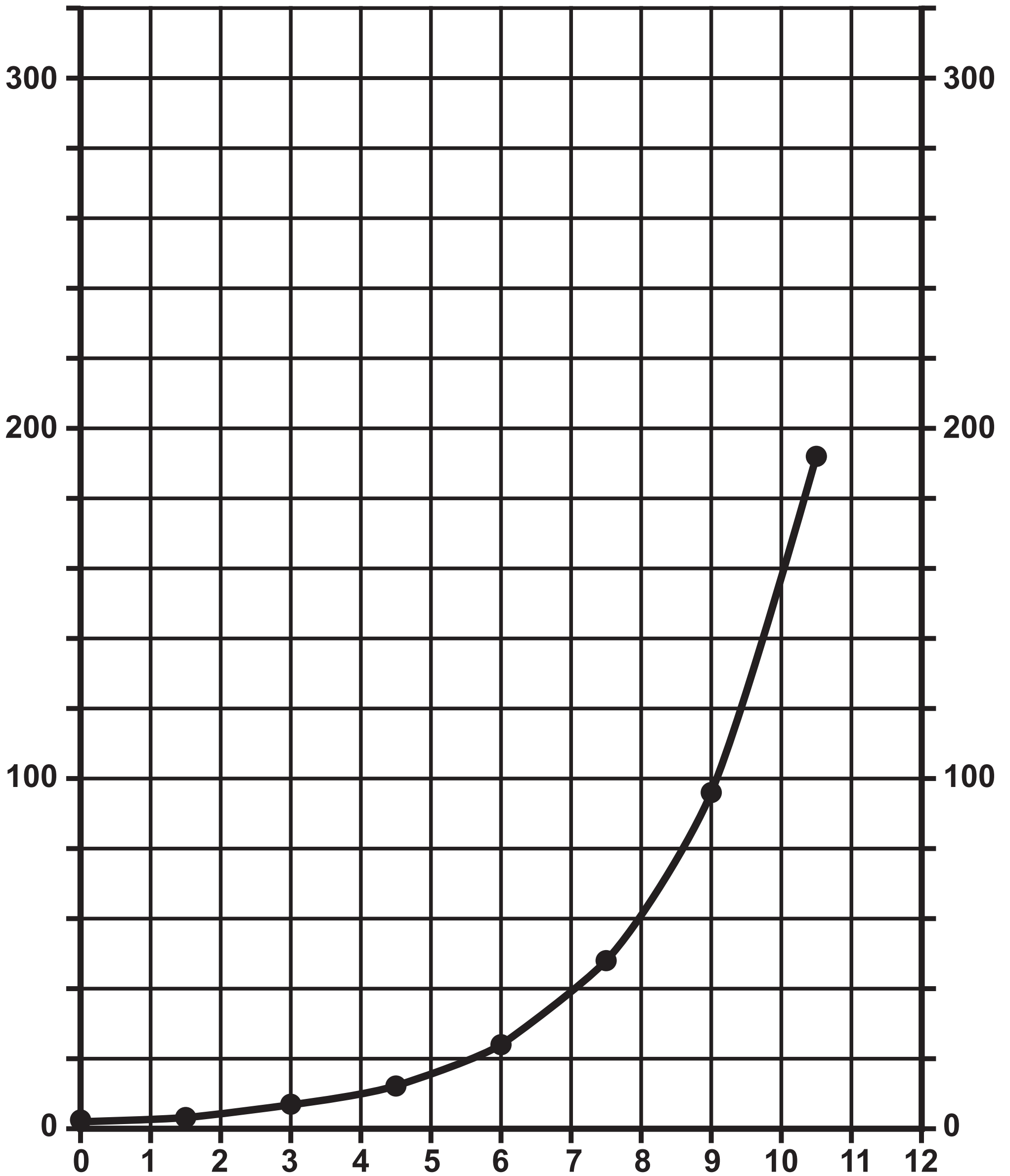
Question 9(b)

Conditions	Distance moved by the bubble in 5 minutes / cm					
	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Mean
Still air, in light	2·4	2·2	2·2	2·2	2·1	2·2
Moving air, in light	6·5	6·7	6·4	6·2	6·3	6·4
Still air, in dark	0·9	0·4	0·0	0·0	0·0	0·3
Moving air, in dark	1·7	0·8	0·0	0·0	0·0	0·5

Question 11(a)(i)

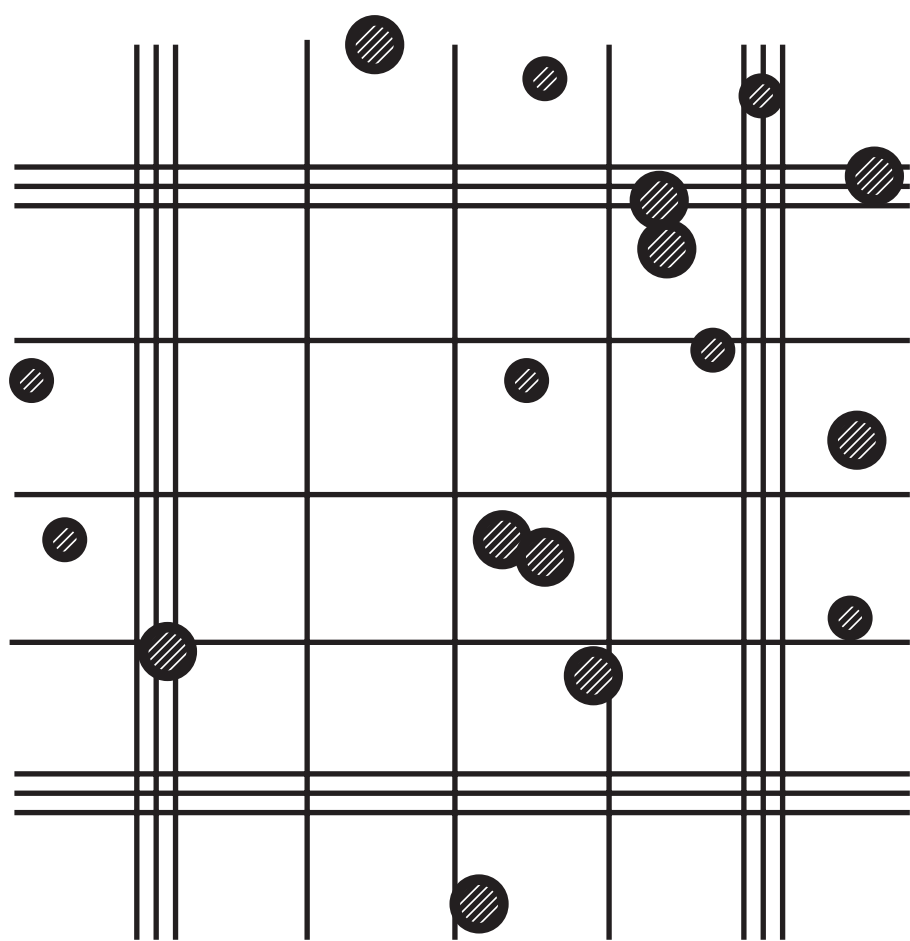


Question 11(a)(ii)

Number of yeast cells $\times 10^2$ per cm^3 

Time/hours

Question 11(c)(i)



Question 11(d)

Time / hours	Number of cells						
	1	2	3	4	5	Mean	Standard deviation (SD)
0·0	1	2	2	1	2	1·6	0·5
1·5	2	3	3	3	2	2·6	0·5
3·0	4	9	9	3	7	6·4	
4·5	13	10	12	9	16	12·0	2·7
6·0	43	31	18	14	15	24·2	12·5

Question 5(a)

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Question 11

(Source adapted from: © Kateryna Kon/Shutterstock)

Question 11(c)(i)

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