

APOLLO

Cell structure

HL

Biology

First assessment 2025

4 questions | mark schemes

Mark-scheme answers

Biology HL | Paper 1A | May 2025 TZ2 | Q12 | 1 marks

12. C

Biology HL | Paper 1A | May 2025 TZ3 | Q12 | 1 marks

12. C

1.	a		(eyepiece) graticule;		1
1.	b	i	42.5 μm OR 45 μm ;	Accept any value within the range: 42 to 45 μm ; Unit required.	1
1.	b	ii	1000 $\pm$ 200 (x);	Accept any value within the range 800 to 1200. Allow ECF, but working must be shown and it must be around 45 mm divided by the result of 1bi.	1

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Question			Answers	Notes	Total
1.	c		a. Y/(mitochondrion) releases ATP/carries out aerobic/cellular respiration; b. Z/(Golgi apparatus) packages/modifies proteins/carbohydrates/lipids / makes lysosomes/vesicles;	a. Accept produces ATP / Krebs cycle. Accept correct function for Y/Z, even if incorrect organelle name is given. Do not accept packages substances/molecules/products – too vague.	2 max

Question		Answers	Notes	Total
1.	d	Similarities: [2 max] a. in both lambda attaches to bacterial/host cell; b. both insert DNA into the bacterial/host cell OR both infect the bacterial/host cell; c. both use the bacterial/host cell (pathways) to replicate their DNA; Differences [2 max] d. in lytic (cycle), the viral DNA is replicated independently/remains separate from the bacterial/host DNA AND in lysogenic (cycle), the viral DNA integrates with the bacterial/host DNA; e. in lytic viral/virion assembly occurs AND in lysogenic it is delayed/dormant; f. in lytic, the bacterial/host cell is then destroyed/bursts/lysed AND in lysogenic it is delayed/not destroyed;	<i>Do not accept answers referring to RNA, genome or genetic material instead of DNA.</i> <i>Use ECF for continued use of the above terms.</i> <i>a. Do not accept that both cause cells to burst/die.</i> <i>b. Do not accept insertion of virus into host cell.</i> <i>c. Do not accept that the virus reproduces, it needs to be viral DNA replication.</i> <i>Accept statements saying 'only' as implying that the other cycle is the opposite.</i>	3 max

Question	Answers	Notes	Total
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2.	a		a. nucleus; b. mitochondria; c. Golgi apparatus; d. ER/rough ER; e. smooth ER; f. vacuole/vesicle;		2
2.	b	i	a. chloroplasts; b. large/central vacuole;		1
2.	b	ii	a. plasma membrane; b. ribosomes;		1