

A-Level Biology

Paper 1

Unsolved Topical

Past Papers With Marking Scheme
According to New Syllabus (2023-2025)

2014-2021

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Title	A-LEVEL Biology Paper 1
Published by	MS Books (042-35774780)
Legal Advisor	Ashir Najeeb Khan (Advocate) AKBAR LAW CHAMBERS 39-40, 1 st Floor, Sadiq Plaza, The Mall, Lahore. 0307-4299886, 042-36314839
For Complaints/Order	MS Books 83-B Ghalib Market Gulberg III Lahore info@msbooks.pk (042-35774780), (03334504507), (03334548651)

PREFACE

Excellence in learning cannot be claimed without application of concepts in a dexterous way. In this regard one of the logical approach is to start in chunks; like chapter wise learning and applying the concept on exam based questions.

This booklet provides an opportunity to candidates to practice topic wise questions from previous years to the latest. Extensive working of Team MS Books has tried to take this booklet to perfection by collaborating with top of the line teachers.

We have added answer key / marks scheme at the end of each topic for the candidate to compare the his/her answer to the best.

MS Books strives to maintain actual spacing between consecutive questions and within options as per CAIE format which gives students a more realistic feel of attempting question.

Review, feedback and contribution in this booklet by various competent teachers of a subject belonging to renowned school chains make it most valuable resource and tool for both teachers and students.

With all belief in strength of this resource material I can confidently claim that it is worth in achieving brilliance.

Our sincere thanks and gratification to **Mr. Muhammad Shahid** who took out special time to help compile and manage this booklet. We would also like to appreciate biology faculty for reviewing and indorsing it.

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Cell Structure

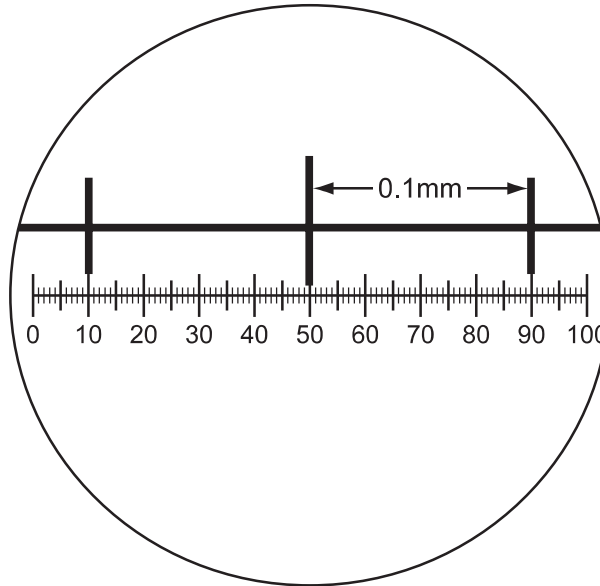
M/J/14/12/Q1

- 1 At approximately which magnification is light microscopy not suitable because the resolution becomes too low?

A $\times 100$ B $\times 200$ C $\times 400$ D $\times 1500$

M/J/14/12/Q2

- 2 The diagram shows a stage micrometer viewed with an eyepiece graticule scale, using a magnification of $\times 400$.



Using the same magnification, a chloroplast is measured and found to be 4 eyepiece graticule divisions long.

How long is the chloroplast?

- A $1.0 \times 10^1 \mu\text{m}$
B $4.0 \times 10^2 \mu\text{m}$
C $2.5 \times 10^{-1} \mu\text{m}$
D $2.5 \times 10^{-2} \mu\text{m}$

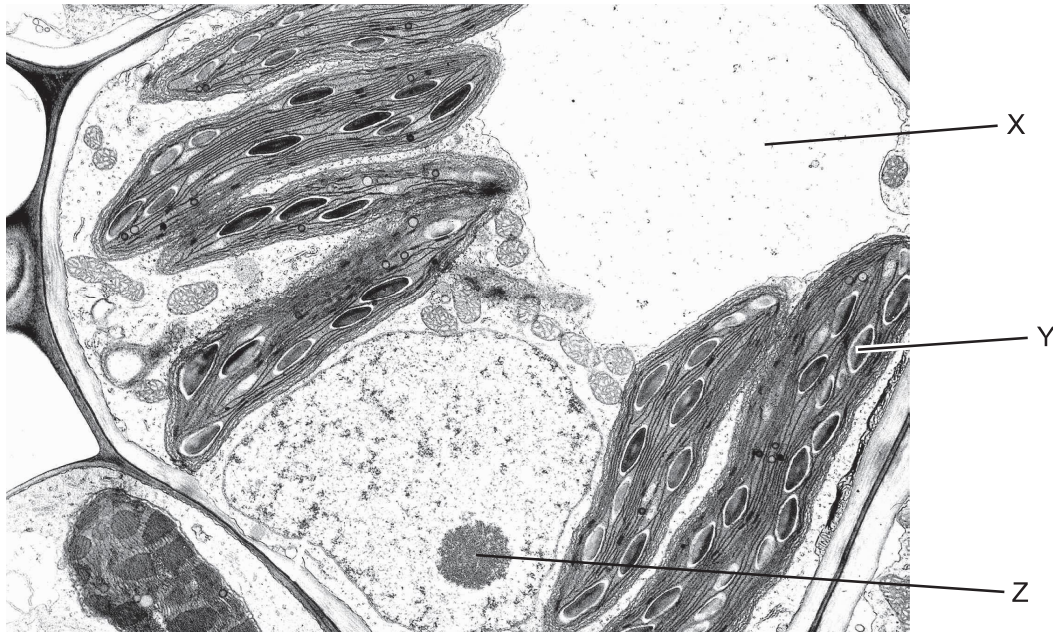
M/J/14/12/Q3

- 3 Which organelle does **not** contain a partially permeable membrane?

- A Golgi apparatus
B lysosome
C mitochondrion
D ribosome

M/J /14/12/ Q4

4 The diagram shows an electron micrograph of a plant cell.



What do structures X, Y and Z contain?

	X	Y	Z
A	air	starch	DNA and RNA
B	cell sap	chlorophyll	protein
C	mineral ions	starch	DNA and RNA
D	water	mineral ions	starch

M/J /14/12/ Q5

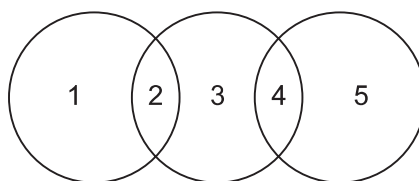
5 An amino acid enters a cell and is then used to synthesise an enzyme secreted by the cell.

What is the sequence of cell structures involved in the synthesis of the enzyme?

	first → last			
A	endoplasmic reticulum	Golgi apparatus	ribosome	exocytotic vesicle
B	endoplasmic reticulum	ribosome	Golgi apparatus	cell surface membrane
C	ribosome	endoplasmic reticulum	Golgi apparatus	exocytotic vesicle
D	ribosome	Golgi apparatus	endoplasmic reticulum	cell surface membrane

M/J/14/12/Q6

- 6 The diagram shows some similarities between chloroplasts, mitochondria and typical prokaryotes.



Which row is correct?

	1	2	3	4	5
A	chloroplasts	70S ribosomes	prokaryotes	70S ribosomes	mitochondria
B	chloroplasts	70S ribosomes	prokaryotes	80S ribosomes	mitochondria
C	mitochondria	70S ribosomes	chloroplasts	80S ribosomes	prokaryotes
D	mitochondria	80S ribosomes	chloroplasts	80S ribosomes	prokaryotes

M/J/14/13/Q1

- 7 The eyepiece lens of a microscope is fitted with an eyepiece graticule.

Which statements about the graticule are correct?

- 1 It allows you to measure the actual length of cells.
- 2 It allows you to draw cells with correct proportions.
- 3 It changes in size as the objective lens changes from $\times 10$ to $\times 40$.

A 1, 2 and 3 **B** 1 and 3 only **C** 1 only **D** 2 only

M/J/14/13/Q2

- 8 The diameter of living cells varies considerably.

The diameter of a typical eukaryotic cell is $1.5 \times 10^1 \mu\text{m}$.

The diameter of a typical prokaryotic cell is $7.5 \times 10^2 \text{ nm}$.

Using these measurements, what is the maximum number of each cell type which could fit along a line 1 cm long?

	number of white blood cells	number of <i>Streptococcus</i> cells
A	6.7×10^4	1.3×10^2
B	6.7×10^3	1.3×10^5
C	6.7×10^2	1.3×10^4
D	6.7×10^1	1.3×10^3

ANSWER KEYS

Qs #	Key	Qs #	Key	Qs #	Key	Qs #	Key	Qs #	Key	Qs #	Key
1	D	36	D	71	B	106	A	141	B	176	B
2	A	37	B	72	A	107	D	142	C	177	D
3	D	38	B	73	C	108	D	143	A	178	B
4	C	39	C	74	C	109	C	144	B	179	C
5	C	40	B	75	A	110	A	145	C	180	B
6	A	41	A	76	B	111	B	146	D	181	A
7	D	42	C	77	C	112	A	147	A	182	C
8	C	43	D	78	B	113	B	148	C	183	C
9	B	44	D	79	C	114	D	149	B	184	B
10	B	45	C	80	A	115	B	150	D	185	C
11	D	46	D	81	B	116	D	151	C	186	A
12	D	47	D	82	B	117	B	152	B	187	B
13	D	48	B	83	B	118	D	153	C	188	A
14	B	49	A	84	A	119	B	154	B	189	D
15	B	50	C	85	D	120	C	155	C	190	C
16	C	51	B	86	A	121	C	156	C	191	C
17	B	52	C	87	B	122	D	157	A	192	B
18	D	53	C	88	A	123	C	158	D	193	D
19	C	54	C	89	D	124	B	159	B	194	B
20	D	55	B	90	B	125	D	160	D	195	B
21	A	56	D	91	C	126	C	161	D	196	D
22	A	57	C	92	C	127	D	162	D	197	C
23	C	58	C	93	C	128	C	163	A	198	B
24	B	59	D	94	B	129	C	164	B	199	C
25	C	60	B	95	A	130	A	165	D	200	A
26	B	61	A	96	D	131	C	166	C	201	A
27	A	62	B	97	B	132	C	167	B	202	B
28	C	63	C	98	D	133	D	168	D	203	
29	D	64	A	99	A	134	A	169	A	204	
30	B	65	A	100	D	135	D	170	D	205	
31	B	66	B	101	B	136	D	171	C	206	
32	C	67	D	102	C	137	B	172	D	207	
33	C	68	D	103	C	138	A	173	A	208	
34	C	69	B	104	D	139	D	174	D	209	
35	B	70	B	105	B	140	A	175	D	210	