AQA GCSE Biology | 8461

SPECIFICATION POINT 4.6.3.2

Speciation (biology only)

Mark schemes and examiner comments

Tier	**Higher**
Question groups	**5**
Available paper years	**2009–2024**

Using this booklet

1. Booklet answer numbers match the question booklet.
2. Use the original question number within marking tables.
3. Examiner comments are included where available.

Name: _____ **Date:** _____

Where a precise marking extract is unavailable, the full source document is included in an appendix. Any missing mark scheme is explicitly identified.

4.6.3.2 Speciation (biology only)

Answer 01 · Mark scheme June 2009 | BLY1BP | Original Q2 | Legacy

Two	**A** Creationism **4** **B** Intelligent Design **3** **C** Lamarckism **1** **D** Darwinism **2**			
	A	**B**	**C**	**D**

Answer 02 · Mark scheme June 2011 | BLY1BP | Original Q2 | Legacy

Two	**A** each of the four species changes slowly over time 1 **B** none of the four species changes over time and some species die out 4 **C** none of the four species changes over time 3 **D** new species evolve over time 2			
	A	**B**	**C**	**D**

Answer 03 · Mark scheme June 2011 | BLY1BP | Original Q3 | Legacy

Three	**3**	**1**	**3**	**4**

4.6.3.2 Speciation (biology only)

Answer 04 · Mark scheme

Question 7

question	answers	extra information	mark
7(a)	variation (between organisms within species)	allow described example allow mutation – but **not** if caused by change in conditions	1
	those most suited / fittest survive		1
	genes / alleles passed on (to offspring / next generation)	allow mutation passed on	1
7(b)(i)	any **two** from: • increase in latitude reduces number of (living) species • increase in latitude reduces time for evolution (of new species) • the less the time to evolve the fewer the number of (living) species	allow converse ignore references to severity of conditions	2
7(b)(ii)	any **two** from: • (increase in latitude reduces number of (living) species because) less food / habitats / more competition at high latitude • increase in latitude reduces time for evolution (of new species) because) severe conditions act more quickly / to a greater extent on the weakest • (the less the time to evolve the fewer the number of (living) species because) species that evolve slowly don't survive	do **not** accept intention or need to evolve allow only extremophiles / well-adapted species can survive	2
Total			**7**

4.6.3.2 Speciation (biology only)

Answer 04 · Mark scheme

January 2013 | BL1HP | Original Q7 | Legacy

BL1HP

4.6.3.2 Speciation (biology only)

Answer 05 · Mark scheme

June 2024 | 8461/2H | Original Q1

Question 1

Question	Answers	Extra information	Mark	AO / Spec Ref.
01.1	a change in: • DNA • base code **or** nucleotide sequence • base (in DNA) • gene / allele • part of a chromosome • number of chromosomes • genetic code / material	ignore genetic information / variation ignore reference to amino acids or proteins	1	AO1 4.6.2.1

Question	Answers	Extra information	Mark	AO / Spec Ref.
01.2	any **three** from: • variation (between members of a species) • better adapted survive • (better adapted or survivors) reproduce • pass on (favourable) allele(s) / gene(s) / mutation(s)	allow in terms of an example ignore mutation allow survival of the fittest allow converse ignore passing on genetic material **or** chromosomes **or** characteristic	3	AO1 4.6.2.1 4.6.2.2 4.6.3.1

Question	Answers	Extra information	Mark	AO / Spec Ref.
01.3	Alfred Wallace and Charles Darwin		1	AO1 4.6.2.2 4.6.3.1 4.6.3.2

4.6.3.2 Speciation (biology only)

Answer 05 · Mark scheme

Question	Answers	Extra information	Mark	AO / Spec Ref.
01.4	hoverfly looks like a wasp	allow pattern of the markings is similar (on the hoverfly and wasp) ignore predator / animal thinks the hoverfly is a wasp	1	AO3 4.6.3.2 4.7.1.1 4.7.1.4
	predator / animal avoids **wasps** so it does not get stung		1	
	(so) predator / animal does not attack / eat hoverfly	allow correctly named predator ignore bite / harm	1	

Total Question 1	8

4.6.3.2 Speciation (biology only)

Answer 05 · Examiner comments

June 2024 | 8461/2H | Original Q1

Question 1 (standard demand)

01.1 Over 70% of students were able to define a mutation correctly. Those that did not gain credit generally knew that it was something to do with 'a change', but this was anything from a cell or a particular characteristic of a phenotype to a whole species changing.

01.2 A third of students were able to give a full description of natural selection to gain full marks. 15% of students did not gain any marks at all for this question. Very few students talked about variation for the first bullet point. Bullet points 2 and 3 were the most common marks gained by students - the third bullet point often awarded for the implication that those that survived went on to breed, and often was by mentioning 'offspring' in marking point 4. Vague references to 'traits' or 'characteristics' being passed on were not creditworthy in bullet point four. Students who were able to give an example of natural selection had better structures to their answers, with giraffe necks being the most common example given.

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Answer 05 · Examiner comments

June 2024 | 8461/2H | Original Q1

01.3 Just over 75% of students were able to identify Alfred Wallace and Alexander Fleming as the scientists that suggested the theory of evolution by natural selection.

01.4 Over 85% of students managed to gain at least one mark in this question, most commonly for stating 'the hoverfly looks like the wasp'. Marking point 2 was rarely awarded as students did not explicitly refer to the wasp. Some incorrect answers referred to the hoverfly being able to camouflage which did not gain credit. Overall, the main reason marks were not awarded was because of vagueness, or poor articulation of ideas.