



GCSE Biology

Classification

Mark Scheme

Time available: 50 minutes

Marks available: 42 marks

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1. (a)

Classification group	Name
Class	<i>Mammalia</i>
Order	<i>Primates</i>
Family	<i>Lemuroidea</i>
Species	<i>catta</i>

all 4 correct = 2 marks
2 or 3 correct = 1 mark
0 or 1 correct = 0 marks

2

(b) Lemur catta

ignore capitalisation / non-capitalisation of initial letters
ignore italics / non-italics
ignore underlining / non-underlining

1

(c) carried by (favourable) currents on masses of vegetation

allow description of currents from Figure 2
ignore swimming

1

(d) isolation of different populations

1

habitat variation between lemur populations

allow examples – biotic (e.g. food / predators) or abiotic (e.g. temperature)

1

genetic variation or mutation (in each population)

1

better adapted survive (reproduce) **and** pass on (favourable) allele(s) to offspring

*allow natural selection **or** survival of the fittest **and** pass on (favourable) allele(s) to offspring*
allow gene(s) / mutation as an alternative to allele(s)

1

(eventually) cannot produce fertile offspring with other populations
allow cannot reproduce 'successfully' with other populations

ignore cannot reproduce unqualified

1

[9]

2.

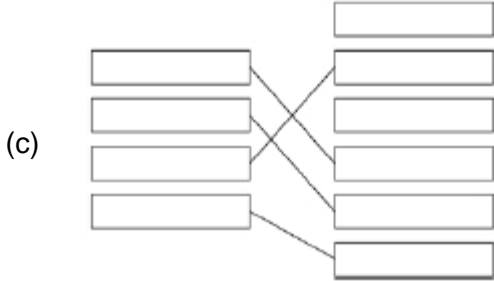
(a) Carl Linnaeus

1

(b) Lithops

extras cancel
ignore capitalisation / non-capitalisation

1



1 mark per line
extra line from adaptation negates the mark for that adaptation

1
1
1
1

- (d) any **two** from:
- cooler underground / at night
or
the jerboa can keep cool
 - loses less water
or
sweats less
 - less likely to be seen (by predators / prey)

2

(e) behavioural

1

[9]

3.

(a) (i) variation (in population) / mutation

1

longer nosed individuals get more food / leaves
allow longer nosed individuals more likely to survive

1

(these) survivors breed (more)

1

pass on genes / alleles / DNA (for long nose)
allow pass on mutation

1

(ii) Phiomia / ancestor stretched its nose (during its lifetime) to reach food / leaves

1

passed on (stretched nose) to offspring
allow offspring inherit (stretched nose)
 do **not** allow ref to genes

1

(b) (i) insufficient evidence / no proof
ignore other theories, eg religion
 do **not** allow no evidence

1

mechanism of inheritance not known
allow genes / DNA not discovered

1

(ii) God made all living things / them
allow creationism
ignore religion

1

[9]

4.

(a) fossils show change over time.

1

(b) covered in sediment / mud or sinks into the mud

1

soft parts decay / are eaten
or
 bones / hard parts / shell do not decay

1

minerals enter bones / parts are replaced by minerals / mineralisation
accept turns to rock
allow 'is an impression' / 'imprint' / 'cast'

1

(c) skin is soft / skin not preserved / not fossilised / skin decays
accept not enough / no evidence / no-one has seen one
allow 'this fossil is only bones'

1

- (d) any **two** examples of:
accept 2 physical factors or 2 biological factors or one of each for full marks

physical factors such as volcanic activity (allow volcanoes) / earthquakes / asteroid (collision) / ice age / temperature change

ignore pollution

and / or

biological factors such as predators / disease / named pathogen / competition/ lack of food / mates / cyclical nature of speciation / isolation / lack of habitat or habitat change

if no other answers given allow natural disaster / climate change / weather change / catastrophic event / environmental change for 1 mark

2

[7]

5.

- (a) (i) natural

1

- (ii) simple

1

- (iii) three billion

1

- (b) any **two** from:

- reference to religion
- insufficient evidence / couldn't prove it / no proof
ignore no evidence
- mechanism of inheritance / variation not known
allow genes / DNA not known about
- reference to other theories
- reference to Darwin's status

2

- (c) (i) tree

1

- (ii) hippopotamus **and** pig
both required, either order
allow hippo

1

- (iii) new evidence from fossils

1

[8]

