

Q1.

(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

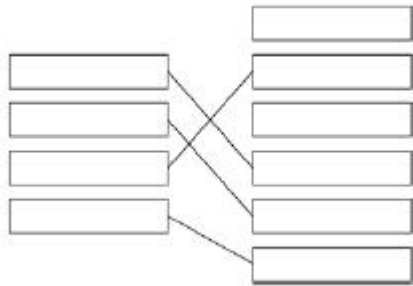
1

[9]

Q2.

(a) Carl Linnaeus 1

(b) Lithops 1
extras cancel
ignore capitalisation / non-capitalisation



(c) 1
1
1
1
1 mark per line
extra line from adaptation negates the mark for that adaptation

(d) any **two** from: 2

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

(e) behavioural 1

[9]

Q3.

(a) less sweating so less water loss 1

(as) no / little water available in desert 1

(b) (fat store) can be metabolised / respired to water 1

(little urine...) conserve water 1

(hard mouth) not damaged by spines on plants / on food



- or**
not damaged by hard / dry food
1
- (c) dromedary / *C.dromedarius*
and bactrian / *C. bactrianus*
no mark for the names, but must be identified
because
same genus
ignore 'both are Camelus'
1
- (d) any **two** from:
- the fossil record
 - oldest fossils in N. America
or
 - newer fossils in S. America / in Asia / in Africa
*allow numbers for ages (45 Mya **and** 3 Mya / 6 Mya)*
 - chemical / DNA analysis of living species
allow radioactive dating of fossils
- 2
- (e) isolation of separate camel populations by sea
or
by mountains
1
- habitat variation / described between populations
allow examples – biotic (e.g. food / predators) or abiotic
1
- genetic variation / mutation in each population
1
- 45 million years is sufficient time to accumulate enough mutations
1
- natural selection
or
better adapted survive to reproduce
1
- pass on favourable allele(s)
allow gene(s)
1
- [14]
- Q4.**
- (a) (i) Chromosomes
1
- (ii) Characteristics
1
- (iii) Classify



1

(b) Plants

ignore algae

1

[4]