

Competition and Adaptation 3

QUESTION 1

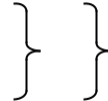
QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	adaptation and linked advantage eg • roots widespread / long (1) to collect water from large area (1) • some roots deep / long (1) to collect water from deep down (1) • absence of leaves (1) reduces water loss (1) • swollen stem (1) to store water (1) • roots near surface (1) to absorb rainwater (1) • roots widespread (1) support in sandy soil (1)	max 2 for 3 adaptations ignore large roots accept to collect more water ignore large roots accept to collect more water	
Total marks			4

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	conserves water owtte		1
a)ii)	prevents overheating / keeps cool	allow cooler at night allow safety from predators	1
a)iii)	increases heat loss / cooling	allow prevents sinking into sand	1
b)	animal could overheat owtte		1
Total marks			4

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	1 mark for each adaptation and 1 mark for its correct linked advantage ✖ long / thick hair / fur (1) for insulation (1) ✖ small ears (1)	allow keeps warm	4



	for reduced heat loss (1) ✖ small feet (1) for reduced heat loss (1) ✖ white fur / coat (1) for camouflage / poor emitter (1) ✖ small SA/V ratio (1) reduces heat loss (1) ✖ thick layer of fat (1) insulates / keeps warm (1)	ignore wide feet ignore prevent sinking	
b)	1 mark for each adaptation and 1 mark for its correct linked advantage ✖ horns (1) for defence (1) ✖ long legs (1) for speed / escape / vision (1) ✖ light colour (1) for camouflage (1) ✖ eyes on side of head (1) for wider field of vision (1) ✖ hooves (1) for speed / escape (1) ✖ large ears (1) to hear predators better (1)	allow pattern	4
Total marks			8

QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	streamlined / aerodynamic / swept-back / arrow-shaped / dart-shaped wings / tail OR large / long wings	allow pointed / curved wings ignore pointed tail / beak ignore large tail	1
b)	no / fewer insects / food (in winter)	allow too cold ignore not adapted to cold ignore day length	1
c)i)	any two from ✖ feed / hunt at different heights or swifts feed higher up ✖ feed / hunt at different times or swifts feed at night ✖ arrive / depart at different		2

	times		
c)ii)	nesting sites / territory / habitat	allow homes / space ignore food unqualified allow well qualified food answers eg insects / food near the ground or insects / food when it's light or insects / food between early May and early August	1
Total marks			5

QUESTION 5

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	digging /getting to insects		1
b)	catching insects / food / insects stick to the tongue		1
c)	hear insects / predators		1
d)	stop soil / dust / insects getting in		1
Total marks			4

QUESTION 6

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	any two from: streamlined / smooth flippers flattened/long / large / powerful tail	allow description eg long and thin ignore slimy / oily skin unless qualified allow fins or webbed feet tail must be qualified to gain credit	2
b)	1 mark for each adaptation and 1 mark for its correct linked advantage eg fat / blubber (1) insulates (1) or large mass to area ratio or small area to mass ratio (1) heat loss reduced (1)	Correct advantage mark can be awarded if adaptation is attempted but not awarded the mark ignore skin / fur allow keeps warm ignore large body unqualified allow volume for mass ignore keeps warm	2
Total marks			4

QUESTION 7

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)		all four correct = 4 marks three correct = 3 marks two correct = 2 marks one correct = 1 mark extra line from a statement cancels the mark	4
Total marks			4

QUESTION 8

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	any two from: • food / feeding • mates / mating • territory / space / land / shelter / nesting sites • status (within group)	ignore water ignore homes / place to live / habitat / resources	2
b)i)	rises to 1480 to 1500 or rises by 880 to 900 or rises until 1993 falls to 400 to 440 or falls by 1040 to 1100	ignore incorrect figures if 1993 given if neither mark gained then allow 1 mark for rise followed by fall or fell by 160 to 200	1 1
b)ii)	rises because: - less competition from mule deer or mule deer population falling or	ignore reference to food / breeding ignore reference to predation /	1

	fewer mule deer falls because: - more competition from mule deer or mule deer population rising or more mule deer	disease ignore more / less suited to environment if neither mark gained then correct reference to competition gains 1 mark	1
Total marks			6