

Fossils MS

QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	(soft) body parts / other parts / named parts	accept flesh	1
	decayed / decomposed / rotted / eaten	ignore disintegrated / dissolved ignore microorganisms	1
	or bones do not decay / decompose / rot / get eaten		
b)	any one aquatic feature from: eg streamlined body shape long tail eyes on top of head scales fins / paddles / flippers / webbed feet	ignore gills ignore feet	1
	any one terrestrial feature from: (front) legs / limbs / hands could lift front end upwards	accept for 2 marks eg fin / flipper can be used for walking or fins like legs	1
Total marks			4

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	killed by poachers / killed for tusks		1
	less trees / leaves to eat		1
	land available disappearing		1
Total marks			3

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	3.75	accept answers in range 3.6 – 3.9	1
b)	(Paranthropus) aethiopicus		1
c)	(Homo) ergaster		1
d)	any two from: Homo erectus fossils found in other parts of the world (too many) gaps in fossil record Homo erectus on different branch of 'tree' or no evidence of other 'humans' developing from Homo erectus or no link shown between Homo erectus to Homo sapiens / modern humans or (fossils show that) H. sapiens evolved from H. heidelbergensis / H. mauritanicus / H. ergaster	ignore references to H. floresiensis or not enough data allow only 50 fossils found in China ignore the two species were alive at the same time allow diagram shows they are not closely related	2
e)	any two from: 'religious' reasons insufficient evidence at that time Darwin was not a respected / well known scientist mechanism of inheritance / variation not known at that time	allow people did not wish to believe they had evolved from apes allow took a long time to get evidence or communications not as good at that time ignore no evidence / could not prove it ignore references to Lamarck allow (people) did not know about genes / genetics / DNA / chromosomes / mutations	2
Total marks			7

QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	too cold / very cold or oxygen / microbes cannot reach it for microorganisms / microbes / bacteria / fungi / enzyme / reaction (to work)	allow not enough energy / heat / warmth ignore frozen ignore other consumers	1 1

b)	no longer exist or no more left or died out / all died	ignore died unqualified	1
Total marks			3

QUESTION 5

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	animal walking on soft material or suitably named material or further detail – eg dries out / buried / hardens / turns to rock	do not allow general descriptions of how fossils are formed or reference to bones not decaying	1
a)ii)	any one from: • (from) bones / shells / hard parts or from parts that do not decay / rot or are preserved • animal trapped in resin / amber /ice / peat • infiltration with minerals / named	ignore imprint / impression allow frozen	1
b)	any two from: examples of physical factors such as flooding, volcanic activity (allow volcanoes) asteroid collision, drought, ice age / temperature change examples of biological factors such as predators (allow hunters), disease / named pathogen, competition lack of food / mates, cyclical nature of speciation / isolation / lack of habitat or habitat change	accept 2 physical factors or 2 biological factors or one of each for full marks ignore pollution If no other answers given allow natural disaster / climate change / weather change / catastrophic event / environmental change for 1 mark	2
c)	older fossils simpler or change (with time)	to gain the mark there must be implication of change ignore evolve ignore extinction	1
d)	insufficient / no evidence / no remains or fossils survive	ignore no people were there allow no proof	
Total marks			6

QUESTION 6

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	remains of an organism or bone / shell / hard part of an organism / impression further detail – eg in rock / from a long time ago	if numbers, greater or equal to hundreds of years allow made of minerals ignore over time ignore fossil are rocks	1 1
b)i)	D		1
b)ii)	B		1
b)iii)	predation / disease / lack of food / competition / loss of habitat / climate change / catastrophic event – or volcanic eruption / flood / drought / temperature change / weather change / ice age / change in atmosphere	ignore human effects ignore pollution effects / acid rain ignore human effects allow natural disaster	1
c)	C = 'widest' thickest / wider thicker column or more fossils (of type C found)	allow biggest / er	1
d)	members of the groups have similar physical structures	extra box ticked – cancel	1
Total marks			7

QUESTION 7

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	fossil is (remains / impression of) organism that lived a long time ago fossils show changes over time or older fossils simpler or fossils simpler than present-day species fossils have similar features to present-day species	if numbers, \geq 1000s years allow fossils allow us to compare old species with present-day species	1 1 1
b)	isolation / separation / splitting by geographical barrier / sea there was variation (in these isolated populations) / different alleles different environmental conditions or example eg climate / predators / food natural selection acted on the		1 1 1 1

	isolated populations		1
	OR		
	only certain allele(s) passed on to offspring / different alleles passed on in different environments		
	so differences lead to inability to interbreed		1
Total marks			9