

# Competition and Adaptation MS

## QUESTION 1

| QUESTION    | ANSWER  | EXTRA INFORMATION              | MARKS  |
|-------------|---|--------------------------------|--------|
| a)          | any two from:<br>✕ streamlined / shape reduces friction /<br>long and thin / smooth surface<br>OWTTE<br>✕ fins / flippers / tail / paddle<br>✕ structures that push against water | do not accept 'arms' or 'legs' | 2      |
| b)i)        | any two from:<br>fossil has hind limb / legs / feet<br>fossil has more ribs / bones<br>fossil has teeth<br>fossil has curved spine  | accept any valid comparison    | 2      |
| b)ii)       | billion<br>give evidence for  |                                | 1<br>1 |
| Total marks |   |                                | 6      |

## QUESTION 2

| QUESTION    | ANSWER  | EXTRA INFORMATION  | MARKS |
|-------------|---|--|-------|
| a)          | long hind legs / muscular hind legs / bent hind legs                                | accept powerful hind legs<br>accept back legs act as spring              | 1     |
| b)          | colour / markings warns predators not to eat it                                     | allow animals learn not to eat them<br>ignore camouflage                 | 1     |
| c)i)        | any two from:<br>✕ loss of habitat<br>✕ climate / environment change<br>✕ pollution | allow new disease<br>allow new predators<br>ignore lack of food or eaten | 2     |
| c)ii)       | eg may have chemicals useful to humans  | accept duty to keep for future generations<br>allow food chain (effects) | 1     |
| Total marks |   |  | 5     |

**QUESTION 3**

| QUESTION    | ANSWER  | EXTRA INFORMATION   | MARKS  |
|-------------|---|---------------------|--------|
| a)          | stays cool<br>less sweat  | ignore shade        | 1<br>1 |
| b)          | any two from:<br>✗ breathing rate less<br>✗ less water lost via breath<br>✗ less water from respiration | less can be implied | 2      |
| Total marks |   |                     | 4      |

**QUESTION 4**

| QUESTION    | ANSWER  | EXTRA INFORMATION   | MARKS      |
|-------------|---|---|------------|
| a)          | protection / defence<br>from predators / from being<br>attacked /<br><br>from being eaten   | ignore insulation or rolls into a ball<br>ignore camouflage | 1<br><br>1 |
| b)          | looks like snake / looks scary<br>deters predators<br><br>or<br>has large eyes<br>to spot predator<br>or<br>camouflage or warning<br>colouration<br>from predator or prey | allow two separate adaptations for 2<br>marks               | 1<br>1     |
| Total marks |   |   | 4          |

**QUESTION 5**

| QUESTION    | ANSWER  | EXTRA INFORMATION                         | MARKS |
|-------------|---|---|-------|
| a)          | camouflage / less visible   | ignore insulation                         | 1     |
| b)          | insulates / keeps warm  | allow keeps out cold<br>ignore camouflage | 1     |
| c)          | prey can't hear it / help catch<br>prey /cannot hear it so isn't<br>scared away | ignore predation on owl                   | 1     |
| d)          | catching / eating / killing prey /<br>perching / defence                        |   | 1     |
| Total marks |   |   | 4     |

### QUESTION 6

| QUESTION    | ANSWER  | EXTRA INFORMATION  | MARKS |
|-------------|---|--|-------|
| a)          | 1 mark for each adaptation and 1 mark for its correct linked advantage<br>fur / long hair / thick coat (1)<br>for insulation / reduces heat loss(1)<br>large body / large mass / small (1)<br>SA:V ratio retains heat / loses less heat (1)<br>short legs (1)<br>reduces surface area / heat loss(1)<br>small ears(1)<br>reduces surface area / heat loss(1)<br>horns (1)<br>defence (1)<br>large shoulders (1)<br>to move through snow (1) | allow keeps warm for insulation<br><br>point<br>ignore layer of fat<br>ignore keeps warm<br><br>reject short (height) / small (height)<br>ignore keeps warm for this point<br>ignore keeps warm for this point | 4     |
| Total marks |   |  | 4     |

### QUESTION 7

| QUESTION    | ANSWER  | EXTRA INFORMATION   | MARKS |
|-------------|---|---|-------|
| a)          | large area  | allow thin / large / big / flat / light<br>allow adaptations that cannot be seen eg internal air spaces | 1     |
| b)          | (shape means that) snow falls off                     |   | 1     |
| c)          | protect / stop it being eaten                         |   | 1     |
| d)          | stores/ absorbs water (from other parts of the plant) | ignore absorbs water from soil / air<br>ignore nutrients  | 1     |
| Total marks |   |   | 4     |