

Decay processes and the carbon cycle

Mark scheme

1. (a) (i) **D** 1
- (ii) **A** 1
- (b) (i) air / oxygen (can enter) 1
ignore other factors entering or leaving
 for (aerobic) respiration 1
*do **not** accept anaerobic respiration*
- (ii) (more) minerals / nutrients / salt(s) / ions
- or** named mineral / element available 1
ignore fertility / fertiliser
*allow symbols; allow eg mulching / reducing weeds **or** retain water*
- [5]**
2. (a) **Quality of written communication:** 1
- ideas given in a sensible order
broken down
giving products (could be CO₂, minerals or gas)
(used by trees)
Q ✓ or Q ✗
- any **three** from: 3
- microorganisms / bacteria / fungi / saprotrophs
 - accept saprophytes / saprobionts / detritivores (named)
 - digest / break down organic matter / leaves / decompose / reference decomposers / decay / rot
 - use of enzymes / correct named example
 - absorption by diffusion / active transport
 - must be of breakdown products
 - respiration / combustion
 - release of carbon dioxide
 - CO₂ can be used (by trees) in photosynthesis
*do **not** accept CO₂ taken in by roots*
- (b) any **two** from: 2
- warmth / suitable temperature
*do **not** accept heat / hot weather*
 - damp / water / rain / humid / moisture
 - oxygen
 - suitable pH

[6]