

**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 CO<sub>2</sub>, 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
  - CO<sub>2</sub> can be used (by trees) in photosynthesis  
*do **not** accept CO<sub>2</sub> 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]**