

Name of the Student: _____

Max. Marks : 28 Marks

Time : 28 Minutes

Mark Schemes

Q1.

- | | | | |
|-----|------|--|------------|
| (a) | (i) | the non-living / physical part (of an ecosystem / environment); | 1 |
| | (ii) | density-independent, with named abiotic factor and a specific effect; | 1 |
| (b) | | capture, count and release;
carefully mark to avoid detection;
recapture, count marked and unmarked;
<i>(information from an equation is valid)</i> | 3 |
| | | | [5] |

Q2.

- (a) pioneers / suitable example colonise land;
example of change in environment;
enables change in species;
conditions change further / example to favour trees; 4
- (b) stable community / no further succession / final community; 1
- (c) roots unable to respire (aerobically);
active transport of minerals / other metabolic effect stops; 2
- (d) action of bacteria / decomposers inhibited / fewer bacteria / decomposers;
acid conditions inhibits enzymes / enzymes denatured / changes active site;
H⁺ ions affect active site;
anaerobic conditions; 3 max
- [10]

Q3.

- (a)
1. colonisation / pioneering;
 2. microscopic plants at start;
 3. death / decomposition;
 4. named change in environment e.g. increase in organic matter / stabilisation;
 5. new species colonise once there is a change;
 6. increase in number of species / diversity / increase in total amount of living material / biomass / more niches / increase in nutrient availability / change from more extreme conditions / more stability;

6

- (b) marking principles:
one mark – direct result of removing forest cover;
e.g. soil erosion / leaching
one mark – specific effect on organisms in lake;
e.g. more sediment / nutrients (for plants to grow)

2

- (c)
1. named nutrient availability;
 2. numbers of producers providing energy (for a food chain) / light intensity affecting the rate of photosynthesis;
 3. disease killing (weaker) members of species / predation described;
 4. space for nest building / niches;
 5. competition for a named limited resource / (intra and interspecific) competition explained;

5

[13]