Practice Question Set For GCSE
Subject : Biology
Paper-1 Topic: B1 Cell Biology

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Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Mark Schemes

Q1.

(a) asexual reproduction **1**

(b) mitosis **1**

(c) clones **1**

(d) 44 **1**

[4]

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Q2.

(a) (placed) randomly

allow description of placement

1

sufficient number (of quadrats) used

1

count (dandelions) in each quadrat

1

use mean number of dandelions, area of quadrat and area of field to estimate population

accept (area of field / area quadrat) × mean number of dandelions per quadrat

1

(b) (40 × 145) / 0.25 = 23 200

1

(0.42 × 23 200 =) 9744

*allow 9744 with no working shown for **2** marks*

*allow ecf from correct attempt at the previous step) × 0.42 for **1** mark*

1

(c) **Level 2 (3–4 marks):**
A detailed and coherent explanation is given. Logical links between clearly identified relevant points are made to explain why dandelion growth may be limited.

Level 1 (1–2 marks):
Discrete relevant points are made. The logic may be unclear.

0 marks:
No relevant content

Indicative content

factors that may be considered:
competition for resources including:
- light
- water
- space
- mineral ions (allow nutrients / salts / ions from the soil)

reference to why growth may be limited:
- (light) energy for photosynthesis
- water as a raw material for photosynthesis / support
- surface area exposed to light
- sugar / glucose produced in photosynthesis
- (space) to grow bigger
- (space) for growth of root system
- (mineral ions) for growth
- (mineral ions / sugar) for production of larger molecules **or** named example

4

[10]

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Q3.

(a) a catalyst / speeds up a reaction

ignore it is not used up

1

it is a protein **or** it is specific / described **or** it has an active site

allow it only acts on one molecule

1

(b) cytoplasm

1

(c) **Advantage:**

any **one** from:

- heat would denature proteins in milk
- heat alters texture or flavour of milk
- catalase / enzyme is specific **or** only affects hydrogen peroxide
- less energy / fuel / lower temperature used so less expensive **or** less pollution

1

Disadvantage:

any **one** from:

- (some pathogens may survive) causing illness
- catalase / enzyme left in milk **or** may cause allergies **or** may alter taste

1

[5]

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