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

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Name of the Student:_____
Max. Marks : 22 Marks **Time : 22 Minutes**

Mark Schemes

Q1.

(a) *Ourasphaira*

ignore italics

ignore capitalisation

*do **not** accept Ourasphaira giraldae*

1

(b) the mud stopped oxygen reaching the fungus

1

(c) any **one** from:

- 2.1×10^8 (years)
- 210 000 000 (years)

1

(d) any **one** from:

- fossil(s) of the fungus may have been destroyed (by geological activity)

  ignore some destroyed
- fossil(s) of the fungus may not have been found (yet)

  ignore some not found (yet)
- dating methods are not precise / accurate
- the time at which an organism / fungus evolves from ancestors is difficult to pinpoint

  allow point of speciation is not known

1

(e) eukaryota

allow eukaryote(s)

1

(f) can survive in extreme environments

1

cytoplasm contains DNA

1

(g) any **three** from:

- studies of internal / cell structures with <u>light</u> microscopes
- studies of internal / cell structures with <u>electron</u> microscopes

allow organelles for internal / cell structures

*if neither mark awarded allow studies of internal / cell structures (with microscopes) for **1** mark*

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- chemical analysis
- comparison of biochemical processes
- DNA / genetic analysis
- studies of evolution(ary relationships)

3

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Q2.

(a) (absorbed from soil) by osmosis through root hair (cells)

allow (absorbed from soil) by diffusion through root hair (cells)

1

travels through xylem (vessels) to the leaves

ignore travels upwards in the xylem unqualified

1

lost through <u>stomata</u> (to atmosphere)

1

idea of driven by evaporation / transpiration

ignore evaporation / transpiration unqualified

1

(b) translocation

1

(c) have pores in the end walls

allow sap for dissolved sugars

1

(so) dissolved sugars / food / contents can move from cell to cell

or

no nucleus **or** few / no sub-cellular structures (1)

allow few / no organelles

ignore cells are empty

to maximise space for movement of dissolved sugars / food / contents (1)

allow thick / rigid cell wall (1) to withstand pressure inside cell

1

(d) any **one** from: (the process):

- requires energy
- is an active process
- uses active transport

1

(reason) cells have many mitochondria

allow flow of dissolved sugars / food in sieve tube cell is not impeded (1)

(reason) companion cell is flattened (1)

1

(e) sugars are made in the leaves by photosynthesis

allow glucose for sugar

allow sugars are not made in the root / meristems (by photosynthesis)

1

<u>all</u> cells / tissues need sugar for respiration

allow <u>every</u> cell / tissue needs sugar for respiration

allow whole plant needs sugar as an energy source

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1

(sugars) transported to meristems for growth / cell division / mitosis

or

(sugars) transported for storage as starch / fat / oil

1

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