COMPTENCE-BASED S.5 BIOLOGY END OF TERM. A' LEVEL SCORING GUIDE 2025

BY: Tr Male Gerald 0708172458

Question 1

Demands: Application + Analysis ✓

a) Insect walking on water. (05 scores)

Water has high surface tension; due to cohesive hydrogen bonding. This creates a film-like surface that resists external force. Insects have hydrophobic legs or fine hairs; to avoid breaking this surface. This enables them to walk or skate on water.

Significance to insects. (02 scores)

Enables insects to access food; escape predators; ecological niche.

b) Green algae floating and below water. (08 scores)

~~Floating algae stay at the~~

Green algae are autotrophs; have chlorophyll for photosynthesis

Floating algae stay at the surface to access sunlight.

Some have air vesicles/bladders for buoyancy.

Those below the water surface are adapted to lower light; often filamentous; perform photosynthesis under water thus releasing oxygen.

Start of acquatic food chains.

Part of planktonic ecosystems.

c) Ecological significance of observations (10 scores)

✓ Photosynthetic activity of algae produces oxygen for aquatic life.

✓ They serve as food for primary consumers like zooplanktons.

✓ Their presence supports food web complexity.

✓ Insect activity influences predator-prey dynamics.

✓ Algae help regulate carbondioxide in water.

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