Assessment Schedule – 2005

Biology: Describe diversity in the structure and function of plants (90463)

Evidence Statement

Note: Plant / plant groups must be included eg Mosses, Ferns, Gymnosperms, Angiosperms (Monocotyledons, Dicotyledons), Hydrophytes, Mesophytes, Xerophytes, Halophytes, Carnivorous, Parasitic, Liane, Sun plant, Shade plant, Algae, Wind pollinated, Insect pollinated, Bird pollinated…

Q	Achievement	Achievement with Merit	Achievement with Excellence
2 (a), (b)	**Description** of what the structure is **AND** how it works (functions) for each plant for the specified process in THREE named plant groups. *Evidence may come from EITHER part (a) OR part (b).*	**Explanation** of how a structure is linked to environment / habitat / lifestyle / niche of TWO named plant groups. *Evidence may come from EITHER part (a) OR part (b).*	2(b) A **discussion** of the diversity of the structure and function to enable plant groups to survive long term in their environment. Diversity in TWO plant groups. *Evidence may come from EITHER part (a) OR part (b).*
	Nutrition: May include: • stomata • palisade cells • chloroplasts • spongy mesophyll • leaf shape • aerenchyma.	**Nutrition:** Structures linked to: Environment / niche / environmental factor : function in photosynthesis / photosynthetic requirements Eg in order to maximise light availability for photosynthesis : larger air spaces in spongy mesophyll increase / provide flotation for : aquatic plants.	**Nutrition / Transport / Transpiration:** May include: Discussion of how structural and functional diversity can be used to exploit new, unoccupied niches, reduce competition, or is a consequence of selection pressure. **OR** Comparisons are made contrasting structures/ functions in two functional groups as to how they achieve the **chosen process** successfully.
	Transport: May include: • diffusion • tracheids • xylem • phloem • secondary thickening.	**Transport:** Structures linked to: Environment / niche / environmental factor : function : plants habit / lifestyle Eg capillary action / and evapotranspiration in xylem vessels : succeed in transportation of water from the root to reach the leaves at the top of the : tallest of trees : in a terrestrial environment with minimal moisture available.	
	Transpiration: May include: • hairs : reduced concentration gradient : water vapour • xylem • stomata • root hairs.	**Transpiration:** Structures linked to: niche / habitat / lifestyle : environmental factor	

Q	Achievement	Achievement with Merit	Achievement with Excellence
	Reproduction: May include: • gametophyte: gametes • sporophyte: spores • seed / spore / pollen : dispersal • sporangia / sori / cone / flower • alternation of generations.	**Reproduction:** Structure linked to: environmental factor (eg wind, water) : habitat / lifestyle	**Reproduction:** May include: • reproductive adaptations linked to successful colonisation of the land. Eg increasing sporophyte generation • complexity of floral structures relevant to increasing specialisation of pollination / mutualistic relationships. • sperm / flagellated gametes suitable in a wet environment, evolution of water-proofed non-motile gametes and their need to disperse in terrestrial environment. **OR** Plant niche is linked to selection pressures on the plant groups and the associated reproductive advantage / success.

Judgement Statement

Achievement	Achievement with Merit	Achievement with Excellence
Structure and function of each of THREE named plant groups is described. 3 × A1, 3 × A2, 3 × A3.	Structure and function is explained with links to environment / niche Achievement *plus* 2 × M.	Discussion of diversity to facilitate survival. Merit *plus* E.