

Plant Diseases and Infection MS

QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS								
a)	root		1								
b)i)	chlorophyll		1								
b)ii)	absorbs / traps / takes in light (for) photosynthesis	do not accept attracts / solar energy / sunshine / sun accept to make food / glucose / sugar/ biomass	1 1								
c)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Mineral ion</th> <th style="text-align: left;">Effect of its shortage</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Magnesium</td> <td style="text-align: center;">Yellow leaves</td> </tr> <tr> <td style="text-align: center;">Nitrate</td> <td style="text-align: center;">Stunted growth</td> </tr> <tr> <td></td> <td style="text-align: center;">White flowers</td> </tr> </tbody> </table>	Mineral ion	Effect of its shortage	Magnesium	Yellow leaves	Nitrate	Stunted growth		White flowers	1 mark per correct line extra line from a mineral ion cancels the mark	2
Mineral ion	Effect of its shortage										
Magnesium	Yellow leaves										
Nitrate	Stunted growth										
	White flowers										
Total marks			6								

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	add mineral ions to the soil	extra box ticked cancels the mark	1
b)	increasing the temperature turning lights on at night	each extra box ticked cancels 1 mark	1 1
Total marks			3

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	protein		1
b)i)	(more) magnesium gives more growth / more leaves / more duckweed	if converse must be clear that less magnesium gives less growth	1
b)ii)	A gave highest number of leaves / plants or more than others or A gave most growth / most duckweed or more than others	it equals 'A' use of numbers must compare A with at least one other allow faster / fastest / better / best growth allow more growth with nitrate / less growth without nitrate do not allow 'no' growth without nitrate	1
c)i)	mark (c) as a whole sensible method: e.g. mass / weighing	ignore dry or fresh allow other sensible method involving measuring eg length of roots - ignore 'size' of roots or measure roots unqualified	1
c)ii)	corresponding explanation: e.g. includes roots / includes whole plant or leaves vary in size or (length / mass / surface area given in c(i)) is a continuous variable	ignore accuracy	1
Total marks			5