

Question Number	Answer	Mark
* 6(a)	<p>(QWC– Spelling of technical terms must be correct and the answer must be organised in a logical sequence)</p> <ol style="list-style-type: none"> 1. Idea of genetically similar plants e.g. clones, cuttings, explants or seedlings from same parent plant ; 2. plants all of same { age /size } (at start) ; 3. reference to at least five different nitrate concentrations ; 4. sensible range of different nitrate concentrations either side of and including 200 (ppm) ; 5. correct reference to any two abiotic variables that need to be kept constant ; 6. idea of sensible measure of growth e.g. mass / number of leaves / length of roots / height of plant ; 7. time allowed for growth { weeks / months } ; 8. appropriate reference to repeats, e.g. replication at <u>each concentration</u> or repeating the whole experiment and calculating mean from data ; 	(5)

Question Number	Answer	Mark
6(b)(i)	<ol style="list-style-type: none"> 1. any pH from the range 6.5 – 8.0 ; 2. { high / highest } (availability) of all mineral ions / highest availability for { nitrate / calcium / magnesium / phosphate } ; 	(2)

Question Number	Answer	Mark
6(b)(ii)	<p>1. reduced availability of magnesium / eq ;</p> <p>2. (magnesium) needed for synthesis of chlorophyll ;</p> <p>OR</p> <p>3. reduced availability of nitrate / eq ;</p> <p>4. fewer leaves / less protein synthesised / less chlorophyll produced / eq ;</p> <p>OR</p> <p>5. reduced availability of phosphate / eq ;</p> <p>6. phosphate needed for ATP / ADP / NADP ;</p> <p>OR</p> <p>7. reduced availability of calcium / eq ;</p> <p>8. idea of root growth inhibited / middle lamellae cannot form ;</p>	(2)