10 Photosynthesis is a process that occurs in all green plants.

The electron micrograph shows part of a chloroplast in a plant cell.



(a) (i) The labelled starch grain in the chloroplast is 2.2 μm long. Calculate the width of this chloroplast between T and U.

(2)

.....μm



in photosynt	thesis.			(3)
				(5)
	arch is formed from the	products of the ligh	ht-independent	
Describe how streactions of pho		products of the ligh	ht-independent	(4)
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(6)

*(c) Herbicides kill weeds by affecting their growth.

The effect of herbicides on the production of starch in the leaves of *Echinochloa crus-galli* (barnyard grass) has been investigated.

The table shows the results for four herbicides: Diuron, Propanil, Linuron and Swep.

Concentration	Relative percentage of starch produced (%)				
of herbicide / μg cm ⁻³	Diuron	Propanil	Linuron	Swep	
0.0	100	100	100	100	
0.1	0	50	50	100	
1.0	0	0	0	50	
10.0	0	0	0	0	
100.0	0	0	0	0	

It is thought that these herbicides act on the light-dependent reactions of photosynthesis.

Devise an investigation that would produce quantitative data on the effectiveness	
of the herbicides on the light-dependent reactions of photosynthesis.	

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(Total for Question 10 = 15 marks)
(Iotal for Question To - 13 marks)
TOTAL FOR PAPER = 100 MARKS
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