

Question number	Answer	Notes	Marks
1 (a) (i)	obtain <u>light</u> for <u>photosynthesis</u> ;		1
(ii)	1. light / lamp; 2. dark room / even illumination / same light intensity everywhere / eq;	ignore temperature / species / water	2
(iii)	plant upright / clinostat / not on its side / eq;	allow answers that describe a clinostat	1
(b) (i)	less/no transpiration / less water loss / less evaporation / prevent wilting / prevent flaccid cells / eq;	ignore drying out	1
(ii)	1. less/no carbon dioxide; 2. photosynthesis; 3. less glucose / starch / carbohydrate; 4. less cooling / less transport of water / less transport of mineral ions;	ignore ref to gas exchange unqualified ignore respiration	2

(Total for Question = 7 marks)

Question number	Answer		Notes	Marks
2 (a)	Description of part	Name	ignore optic	3
	contains light receptor cells	<u>retina</u> ;		
	neurone that sends impulses into the brain	<u>sensory</u> ;		
	microscopic gap between neurones	<u>synapse / synaptic (cleft) / synaptic (gap)</u> ;		
	contains muscle effector cells	(iris)		

Question number	Answer	Notes	Marks
2 (b)	1 more convex / fatter / wider / thicker / eq; 2 bend light / refract ; 3 ciliary muscle / body ; 4 contract / shorten / eq; 5 <u>suspensory ligaments</u> ; 6 slacken / less tension / loosen / less taut / eq;	more concave and wide = 0 ignore diffract ignore relax	4 max
		Total	7

Question number	Answer	Notes	Marks
5 (a)	A lens; B cornea; C retina;	A. allow lense C. ignore rods/cones/receptors/fovea	3
(b) (i)	same/similar cells / cells with the same function / all muscle <u>cells</u> / eq;	ignore group of cells alone allow group of cells working together	1
(ii)	1. radial muscles contract / circular muscles relax; 2. <u>pupil</u> dilates / widens / gets bigger / <u>iris</u> gets smaller / eq; 3. more light can enter;		3

(Total for Question = 7 marks)

Question number	Answer	Notes	Marks
1 (a)	1. cell wall; 2. chloroplasts; 3. vacuole;	ignore cellulose ignore chlorophyll	3
(b)(i)	A receptor; (B sensory neurone) C relay / intermediate / association / inter; D motor; E effector / muscle;	ignore sense organ reject receptor neurone	4
(ii)	synapse(s) / synaptic cleft / synaptic gap;		1
(c)	0.0075 / 7.5×10^{-3} ;;	allow one mark for number $\div$ 120 in working	2

Total 10 marks