

Q1 (a)	
1. (a) Leaf simple.....	Go to 2;
(b) Leaf compound.....	J;
2. (a) Leaf parallel-veined.....	F;
(b) Leaf net-veined/reticulate.....	Go to 3;
3. (a) Leaf variegated.....	E;
(b) Leaf non-variegated.....	G/H or G and H;
4. (a) Leaf margin serrated.....	G/Leaf surface rough;
(b) Leaf margin smooth.....	H/Leaf surface smooth;
	(6 marks)
(b)	Parts with chlorophyll/green turned blue-black; as light was absorbed and photosynthesis occurred; forming starch; non-green parts remained brown/yellow colour of iodine; as no photosynthesis occurred; no starch was formed;
	(2 marks)
(c)	G - Leaf folds to reduce water loss;
	Rough/hairy leaf surface; reduce transpiration rate/water loss; (2 marks)
H - Has shiny/glossy leaf surface to reflect light, reducing transpiration;	
	Leaf folds to reduce water loss; (2 marks)
(d)	<ul style="list-style-type: none"> • Presence of fibrous root system; • Floral parts in 3's and multiples of 3;
	(1 mark)

Q2. (a)

Food Test	Procedure	Observations	Conclusion
Starch;	To 2ml of M (in a test tube), add two drops of iodine solution;	Colour of iodine is retained/persists/no colour change;	Starch absent;
Vitamins C/ascorbic acid;	To 2ml of DCPIP (in a test tube), add solution M drop by drop;	DCPIP is decolourized or DCPIP colour changes to pink;	Presence of vitamins C/ascorbic acid;
Lipids (fats/oils);	Put/rub/apply a drop of M on a filter/plain white paper and allow it to dry;	Permanent translucent mark is left on the paper (mark not similar to the one left by olive oil);	Absence of lipids/fats;

(b)

- Avoid contamination of apparatus and reagents;
- Avoid burning the paper while drying over the flame;
- Avoid misusing the reagents/provided food substances;
- Do not interchange droppers;

(2 marks)

3.

(a)

Specimen N	Specimen P
White-yellow stem	Green stem;
Yellow-green leaves	Green leaves;
Thin, weak stem	Strong, thick stem;
Small leaves	Large leaves;
Fewer roots	Many/more roots;
Tall/long internodes/stem	Short stem/internodes;

(2 marks)

(b) (i) Etiolation;

(1 mark)

- (ii) • In green houses where transparent materials/polythene; is used to cover the top/sides (of the green house) to enable (adequate) penetration of light for crops to photosynthesize (hence germinate and grow healthily);

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- Proper spacing/pruning/weeding to ensure light reaches all plants;

(2 marks)

(c) The specimen has yellow leaves/white stem/small leaves/lacks chlorophyll; as a result of having been grown in the dark; so could not photosynthesize; it is elongated/long/tall/has a weak stem due to increased concentration of auxins in the dark; stimulating faster cell elongation/growth; to look for light;

(3 marks)

(d)

- Oxygen;
- Water/moisture;
- Optimum/suitable temperature/warmth;

(2 marks)

(e)

- Tap root system;
- Net-veined/reticulate/branched venation;
- Broad leaf/lamina;
- (Compact) petiole/leaf stalk;

(2 marks)