

BIOLOGY MARKING SCHEME

231/3



Food substances	Procedure	Observation	Conclusion
Starch	Put 2cm ³ of suspension M in a test tube Add 2 / 3 drops of iodine solution and shake Rej.2 to 3 drops	Blue black colour is formed	Starch present
Reducing sugar	Put 2cm ³ of suspension M in test tube. Add equal amount of Benedict's solution and heat.	Colour changes from blue to yellow to orange.Rej: wrong colour sequence	Reducing sugar present
Proteins	Put 2cm ³ of suspension M in a test tube Add an equal amount of (10%) sodium hydroxide solution and shake. Add 2 drops of (1%) copper sulphate drop by drop and shake.	No observable colour change	Proteins absent
Ascorbic acid / Vitamin C	Put 2cm ³ of DCPIP in a test tube Add solution M drop by drop into the DCPIP in the test tube and shake	Suspension M decolourises DCPIP	Presence of Ascorbic acid

NB – for wrong procedure reject observation and conclusion

2. a)- Absence of root hairs on piliferous layer / epidermis;
 - Tissues not fully differentiated e.g. vascular tissues;
 - Presence of pith
- b) A-piliferous layer
B- pith
C- Cortex
- c) A-protection of inner tissues from mechanical injury / infection, water loss/dessication;
C –storage / package / support;
- d) D – phloem- translocation / transport of manufacture food;

E – xylem – transport water and mineral salts.



- e) (i) Protect the apical meristem;
- (ii) Secondary thickening / growth;
- (iii) Increase surface area for absorption of water and mineral salts;

3. a) Thigmotropism / Haptotropism;

b) Auxins are more concentrated on the side that is not in contact with the branch of support; there is more cell elongation on the outer part in contact with the support plant; hence the growth curvature is towards the branch;

d) Shoot \ root tip \ apical meristems;

-lateral meristems \ cambium;

e) –stimulation of fruit growth when flowers have not been pollinated \ parthenocarp;

- induce growth of adventitious roots in stem cutting for vegetative propagation;

- Manufacture of selective weed killer;

- In pruning of crops e.g. tea, coffee, which result in sprouting of side branches;

