

FORM 3 BIOLOGY PAPER 3 MARKING SCHEME

Q1.

a) Food	Procedure	Observation	Conclusion
Starch;	Put about 2ml of the suspension (W) into a test tube. Add (3) drops of iodine solution and shake;	The colour changes from brown to blue-black; acc. blue rej. no observations made	Starch present;
Reducing sugars;	Put about 2ml of the suspension (W) into a test tube. Add equal volume of Benedict's solution. Heat to boil/ put in a hot water bath; rej. benedict / benedicts	The colour changes from blue, green, yellow then orange; rej. if colour sequence is wrong Acc. final colour if no sequence is given	Reducing sugars present;
Proteins;	Put about 2ml of suspension (W) into a test tube. Add equal amount (10%) sodium hydroxide and shake. Add (1%) copper sulphate dropwise while shaking	No colour change / blue colour of copper sulphate retained;	Proteins absent;
Vitamin C / ascorbic acid;	Put 2ml of DCPIP into a test tube. Add the suspension dropwise while shaking	No colour change / blue colour of DCPIP retained; rej. no change	Vitamin C absent;

Total $\frac{16}{2} = 8\text{mks}$

- b) i) Enzyme amylase / ptyalin; 1mk
Maltase; 1mk
ii) Alkaline medium; 1mk
c) Kwashiorkor; 1mk
Scurvy; 1mk

Q2. a) K1- Aquatic/fresh water (1mk)

Reason: Leaves have a large surface area (1mk)

J – Desert/semi arid/dry (ref. Terrestrial) (1mk)

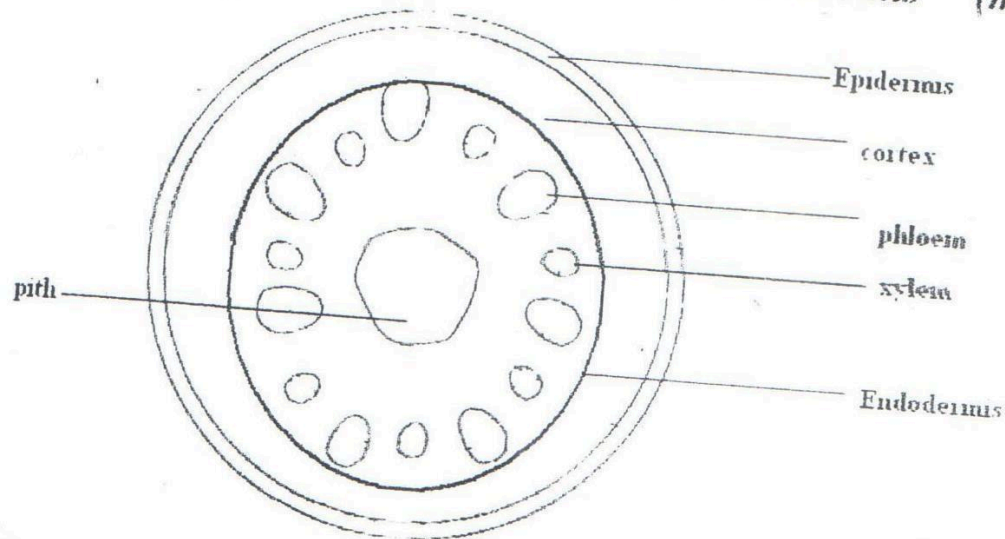
Reason: Thick fleshy stem leaves reduced to thorns (res. spines) (1mk)

b) Xerophytes (1mk)

- c) Sunken stomata (1mk)
Reversed stomatal rhythm (1mk)
Small stomatal pore (1mk)

d)

- (c) (i) Monocotyledonous root (1 mark)
(ii) Vascular bundles alternating around the pith; (1 mark)
Presence of pith; presence of Endodermis (mark the first)



Epidermis

Cortex

Endodermis

Xylem

Phloem

Pith D = 1 mark

$L = 6/2 = 3 \text{ marks}$

NB = No shading

DI = Continuous outline

Q3.

- (a) **Q** - upper jaw
R - horny pad
S - incisor
T - lower jaw

(b) - allow The (Tongue) turns the grass during chewing/ grinding;

(c) - herbivorous; acc herbivory

(d)

Specimen	Name	Adaptation	Function
X	Premolar/molar	- 2 roots; ridges and cusps on grinding surface	- support, grinding/ chewing food;
Y	Molar	- 3 roots; ridges and cusps on grinding surface	- grinding/ chewing food;
Z	Incisor	- one pointed root; chisel shaped;	- cutting/ grasping food;