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 $\frac{16}{2}$ = *8mks*

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)

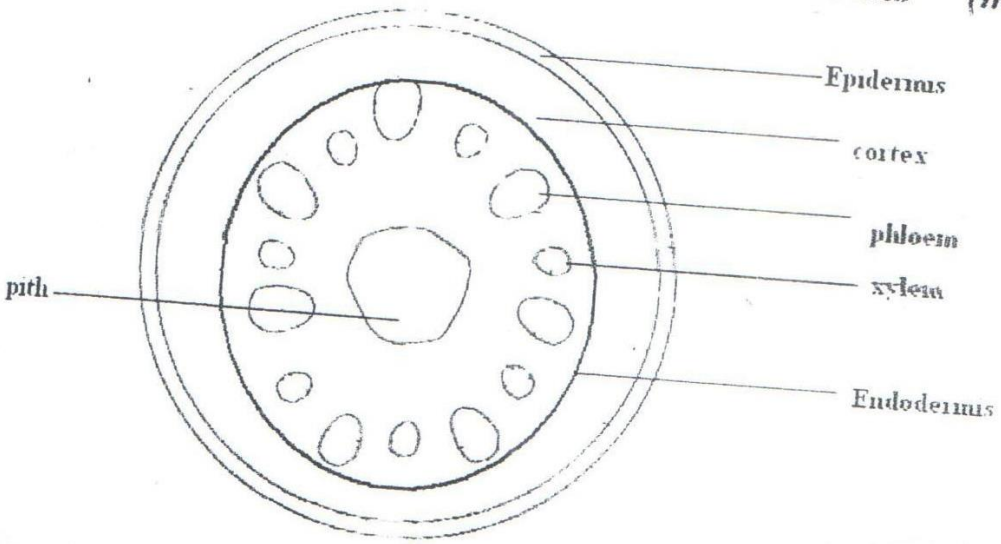
c) Sunken stomata (1mk)
Reversed stomatal rhythm (1mk)
Small stomatal pore (1mk)

d)

(c) (i) Monocotyledonous root (1mark)

(ii) Vascular bundles alternating around the pith; (1mark)

Presence of pith; presence of Endodermis (mark the first)



Epidermis

Cortex

Endodermis

Xylem

Phloem

Pith D = 1mark

L = 6/2 = 3marks

NB = No shading

DI = Continuous outline

Q3.

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

(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;