MARKING SCHEME BIOLOGY FORM 3 PAPER 3 TERM 2

1. a) i) Visking tubing swells/ becomes turgid; (1X1 = 1mk)

ii) High concentration of water molecules in the beaker/ distilled water compared to the visking tubing/ solution K;Water molecules move by osmosis from beaker into visking tubing; (1X2 = 2mks)

b) **I VISKING TUBING**

TEST **I BEAKER**	**PROCEDURE**	**OBSERVATIONS**	**DEDUCTIONS**
STARCH	Put food sample in test tube add iodine solution ;	Dark blue/ Blue black/ Black;	Starch present;
REDUCING SUGAR	Put food sample in a test tube add (equal amount of Benedicts solution heat / warm / heat in a water bath	For blue, green, yellow/orange/red;	Reducing sugar present; 4mks
II BEAKER			
STARCH	Put food sample in a test tube add iodine solution ;	Remain yellow brown;	Starch absent;
REDUCING SUGAR	Put food sample in a test tube add (equal amount solution heat / warm/ heat in a water bath;	Mixture turns from blue, green, yellow/ orange/red;	Reducing sugar present;

NB: Procedure must be correct to preceede marking observation and conclusion / deductions (6 mks)

c) Starch molecules are large compared to glucose/molecules;Small sugar/ glucose molecules pass through the pores of visking tubing/ but not the large starch molecules;

OR

Visking tubing is semi-permeable/allows only small sugar molecules but not large starch molecules. (3mks)

Mark as a whole

a) Young stems Accept Stem alone (1x1 = 1mk)

b) Similarities (2mks)

- Both have vascular bundles with xylem and phloem
- Both have the cortex
- Both have the pith (1 x 2 = 2mks)

Differences

• Organ from which section A was obtained	Organ from which section B was obtained
• Vascular bundles are arranged in a	Vascular bundles scatteredconcentric ring
• Pith is centrally placed	Pith is scattered in the stem
• Cambium layer is present	Cambium layer is absent

(1 x 3= 3mks)

c) Plant represented by diagram A has the cambium layer hence undergoes secondary thickening to form large structured plants which survives for a longer period of time. (1 x 3= 3mks)

d) Parenchyma cell (1 x 1= 1mk)

e)

- Epidermis
- Endodermis
- Cortex
- Vascular bundle
- Cambium rings (1 x 5 = 5mks)

3.

a) (i) Arthropoda; Reject Arthroponda;Anthropoda (1 x1 = 1mk)

(ii)

- Presence of exoskeleton;
- Have segmented body;
- Jointed appendages (1 x 3 =3mks)

b) (i) R – Insecta Reject insect

Q – Arachnida Reject arachnid (1 x 2 =2mks)

(ii) R

- Three body regions;
- One pair of antennae
- One pair of compound eyes
- One pair of spiracles per segment Accept Three pairs of legs (1 x 2 = 2mks)

Q

- Body divided into two parts (Cephalothorax and abdomen);

Accept four pairs of walking legs (1 x 2 = 2mks)

c)

- Crustacea
- Millipede
- Centipede (1 x 3 =3mks)