

Kenya Certificate of Secondary Education

BIOLOGY

PAPER 3

MARKING SCHEME

1.

Food substance	Procedure	Observation	Conclusion
Starch✓	- To 2cm ³ of juice add iodine solution dropwise✓	-Yellow/brown colour✓	- Starch absent ✓
Reducing sugars✓	- Obtain 2cm ³ of juice in a test tube - Add 2cm ³ of Benedict's solution - Heat✓	- Colour changes to green; yellow; orange✓	- A lot of reducing sugars present✓
Vitamin C/Ascorbic acid✓	- Obtain 2cm ³ of DCPIP/Dichlorophenol indolphenol in a test-tube; add the juice dropwise; shake✓	- DCPIP/Dichlorophenolindolphenol decolourised✓	- Vitamin C present✓

(12mks)

Q2.	(a) Specimen	identity	class
	K	Gills✓ ½	Pisces ✓½
	L	Lungs✓½	Mammalia ✓½

(b) Gill bar;

Gill rakers;

Gill filaments;

NB: Parts correctly labeled (3mks)

On the diagram

(c) Gill bar – supports the gill filaments;

Gill filaments – form site of gaseous exchange;

Gill rakers – protect the delicate gill filaments from damage by solid particles

(3mks)

(d) Made of spongy elastic tissue; that expands to accommodate a large volume of air;

- Made up of numerous alveoli; to provide a large surface area for gaseous exchange;

- Well supplied with blood vessels; for quick transportation of gases;

(6mks)

(e) (i) Both are for gaseous exchange (1mk)

(ii) Rings of cartilage prevent collapsing of the trachea during exhalation;

- Ciliated epithelium to waft particles towards pharynx;

- Moist endothelium to moisten inhaled air;

- Mucus covered epithelium to trap foreign particles;

- Hollow trachea allows passage of air;

(2mks)

(Mark first two)

3.

Part	Function
X – Hook – like structure	Attaches onto the fur/hair of an animal hence its carried and dispersed to new habitats
Y – Pappus/hair like extension	Make it light, thus easily blown by air currents
Z – Wing-like extension	Increases the surface area so that it is easily blown away by air currents

Naming (1mk) Function (1mk) (max 6mks)

(b) Method- self dispersal by explosive mechanism

Reason – has two sutures/lines of weakness along which it dehisces on drying (3mks)

(c) Gynoecium – monocarpous

Placentation – marginal

(2mks)

