Kenya Certificate of Secondary Education

BIOLOGY

PAPER 3

MARKING SCHEME

1. (a) (i)

S_2 – Pericarp;

S_3 – Mesocarp;

S_4 – Seed;

S_5 – Endocarp;

S_6 – Fruit stalk;

(5mks)

(ii) T_2 – Remains of calyx;

T_3 – Placenta;

T_4 – Seed/ovule;

T_5 – Funicles;

(4mks)

(iii)

Specimen	Type of fruit	Reasons
S_1	Drupe;	- Once seed; Accept: hard or stony endocarp; Fleshy mesocarp; basal placentation
T_1	Legume pod	- Two sutures/two lines of weakness. Accept: marginal placentation.

$^4/_{2=}$2mks

(iv)

Specimen	Method of dispersal	Reasons
S_1	Animal	- Bright colour; accept: fleshy mesocarp
T_1	Mechanical (self-explosive mechanism	- Two lines of weakness

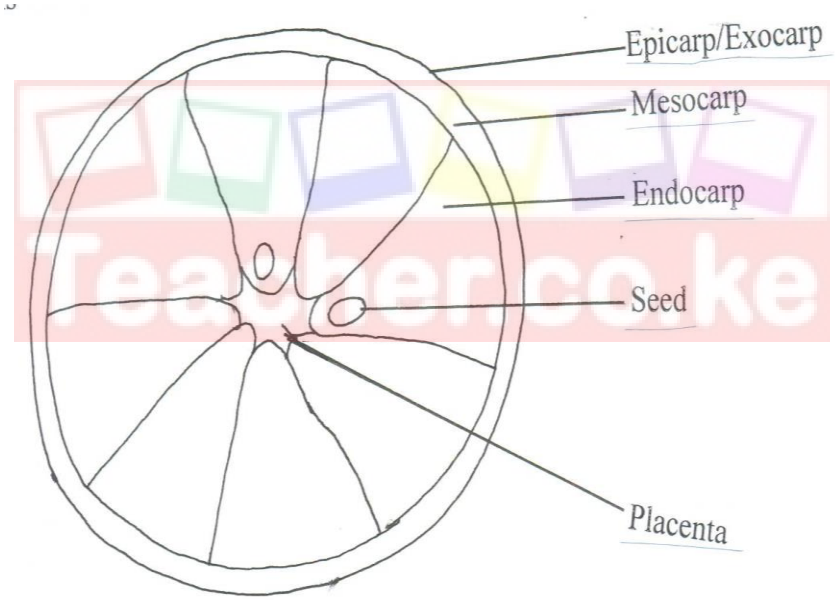
$^4/_2$ = 2mks

(b) (i)

L = 3 max

D = 1mk

4mks



(ii) Axile; 1mk Reject Axil or axile.

(iii)

Food substance	Procedure	Observation	Conclusion
Reducing sugar;	- Add equal amount of Benedict's soln. heat	- Colour to orange/brown	- Reducing sugars present
Ascorbic acid or	- Add juice dropwise to	DCPIP discolourises	Ascorbic acid or vit C.

vitamin C	DCPIP		present

$^{6}/_{2}$ = 3mks

2. (a) (i) Arthropoda; 1mk

Reject Arthroponda;

Anthropoda

(ii) Presence of exoskeleton; have segmented body

Accept jointed appendages (2mks)

(b) (i) R – Insecta 1mk reject insect

Q – Arachnida 1mk

(ii) R – three body regions; 1mk

Accept – three pairs of legs

One pair of antennae

One pair of compound eyes

One pair of spiracles per segment

Q – Body divided into two parts (Cephalothorax and abdomen); 1mk

Accept four pairs of walking legs

Set $_{1}$ – normal conditions

Set E_1 – in the dark

Set B – unidirectional light 3mks

(b) (i) Etiolation; 1mk

(ii) To reach light; 1mk

(c) (i) Positive phototropism; 1mk

(ii) Auxins move to the darker side causing faster growth on this side; resulting in curvature of the shoot towards the source of light; 2mks

(d) (i) Set A_1 – Epigeal; 1mk

Set M_1 – hypogeal; 1mk

(ii) Set A_1 – cotyledons brought above the ground; 1mk

Set M_1 – cotyledons remain below the earth's surface/underground; 1mk