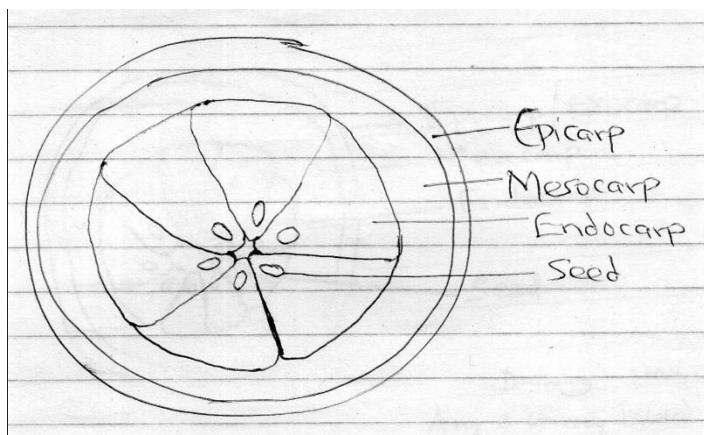# BIOLOGY PAPER 3 MARKING SCHEME

1 (a) Berry/Hesperidium;

(b) Has numerous seeds which are embedded in a succulent endocarp;

(c)

Drawing- 1Mark

Any two correctly labeled parts – 2 marks

Magnification – 1 Mark

Total – 4 Marks

(d) Axile/Central;

(e) (i) Animals;

(ii) Fruit is scented to attract animals;

Indigestible seed coats to avoid digestion by animals;

Brightly coloured epicarp to attract animals;

Fleshy/juicy pericarp to attract animals;

(f)

Food substance	Procedure	Observation	Conclusion
Vitamin C/Ascorbic acid	To the DCPIP add the juice √	DCPIP decolorized √	Vitamin C present
Reducing sugars	Add Benedict's solution to the juice and heat √	Colour changes to yellow/Orange√	Reducing sugars present

(g) (i) Absence of ascorbic acid/vitamin C in the juice;

(ii) Boiling destroys Vitamin C;

2. (a) (i) Full light/sufficient light/adequate light;

(ii) Dark;

(b)

Seedling R	Seedling S
Short stem;	Long stem;
Short internode;	Longer internode;
Green leaves;	Yellow leaves;
Thick stem;	Thinner stem;
Larger leaves;	Small leaves;

(c) (i) Etiolation ;

(ii) Seedling elongating fast so as to reach out to light;

(d) More auxins synthesized in dark resulting to faster shoot elongation in Specimen S;

(e) Phototropism;

(f) (i) Epigeal germination;

(ii) Cotyledons are brought above the ground;

3 (a) (i) Lungs;

(ii) Gill;

(b) Pisces; (must start with a capital letter)

(c) Gaseous exchange;

(d) Have a large surface area to ensure diffusion of larger volume of gases;

Highly vascularized to transport diffusing gases;

Moist to dissolve diffusing gases;

(e) (i) Trachea;

(ii) Has rings of cartilage to prevent it from collapsing and keep it open;

(f) Thoracic cavity/Chest cavity/chest;

(g) Numerous and long gill filaments to increase surface area for gaseous exchange;

Gill filaments have thin epithelium to reduce diffusion distance of gases;

Bony and rigid gill bar to support gill filaments and gill rakers;

Presence of gill rakers to prevent solid particles from damaging gill filaments;