

BIOLOGY FORM 3

PAPER 3

MARKING SCHEME

1. A (a) No bubbles/effervescence;

(b) Bubbles/effervescence/foam observed

B (a) Catalase enzyme denatured by high temperatures hence no reaction

(b) Catalase enzyme; broke down hydrogen peroxide into water and oxygen hence bubbles;

C (i) Broken down into small droplets;

(ii) Emulsification;

(iii) Duodenum;

(iv) Increases the surface area for enzymes to speed up the rate of digestion;

D (i) Liquid forms solid particles/liquid curdles;

(ii) Part of body – stomach;

Enzyme –Renin;

(iii) Gastric glands

(iv) Gastrin hormone;

2. a) A – Renal vein

B – Ureter

C – Kidney pelvis

D – Cortex

b) – Has numerous mitochondria to provide energy for active transport

- has microvilli in the inner lining to increase surface area for reabsorption of substances

- Highly vascularised for transport of reabsorbed substances

- Has a thin epithelium for rapid diffusion of substances

c) on the diagram to show loop of henle

d) – Osmoregulation

- Regulation of pH

3. (a) C –Hypocotyl (1mk)

Importance —protects the plumule /shoot tip/first foliage leaves /opens path through the soil for the cotyledon to pass/pulls the cotyledon out of the soil. Accept any one. Rj if wrong identity.

D Cotyledons/seed leaves (1mk)

Importance: Photosynthesis (2mk)

Food storage /food reserves

Provide food for germinating seedlings /young plants.

E Coleoptile/plumule sheath Rej: cover/coat (1mk)

Importance-protects the delicate tip/first leaves/foliage leaves (1mk) tie importance to identify

- (b) (i) nodules/root nodules (1mk) accept correct spelling
- (ii) Rhizobium/Rhizobia/Rhizobium bacteria *rej*. Bacteria alone/wrong spelling
- (iii) Symbiotic relationship in which bacteria gets protection and nutrients while the plant gets nitrogen in form of nitrates fixed by bacteria.(1mk)

- (c) (i) Epigeal (1mk) *accept* correct spelling.
- (ii) Cotyledons are brought out of the ground.(1mk)

(d) Water (1mk)

Oxygen

Optimum temperature *Rej* temperature alone