



**KISII SCHOOL**  
**MOCK EXAM 2025**

*Kenya Certificate of Secondary Education (K.C.S.E)*

# **BIOLOGY PAPER 3**

# **MARKING SCHEME**

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1. (a) (i) Seed;

(ii) It has one scar / point of attachment to placenta

(b) (i) Germination;

(ii) Water moves into the seed through the micropyle by imbibition; the seed swells; stored food become hydrolyzed / enzyme break down the stored food into soluble products; the embryo uses the soluble nutrients leading to radical coming out through the micropyle;

(c) (i) – immature embryo

-Absence of growth inhibitors

Presence growth hormones;

Hard / impermeable testa;

(1<sup>st</sup> 2 point

(ii) – Absence of light;

- Low / freezing / chilling temperature

- Lack of moisture

(1<sup>st</sup> 2 point

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(d) (i) The indicator D turned yellow;

(ii) The soaked seeds carry out respiration; which produces CO<sub>2</sub>; which in turn changes the indicator from blue to yellow;

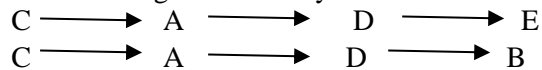
(iii) Use boiled seeds / dry seed;

2. . (a) K – Afferent arteriole

- F - Ureter
- X -cortex
- A -bowman's capsule
- H -proximal convoluted tubule

- (b)
  - Coiled to increase Surface area for reabsorption of substances
  - The tubule is supplied with blood capillaries to transport reabsorbed substances;
  - lining cells have numerous mitochondria to provide energy in form of adenosine triphosphate for active reabsorption.
  - Cells of the tubule have microvilli which increases the surface area for reabsorption.
- (c)
  - (i) -Loop of Henle
  - (ii) - Distal convoluted tubule;
- (d) Kidney tubule becomes less permeable to water; less water reabsorbed into blood stream;  
Production of large amounts of dilute urine (thus diuresis).

3. (i) Food chain ending with Tertiary consumer



(ii)- Population of organism E (snakes) would increase leading to decrease in population of organism D (frogs)

- Population of organism A (grasshoppers) would increase hence grass would reduce;

- (iii)
  - has wings for flight;
  - has three pairs of jointed legs for walking;
  - Hind limb is highly muscular for hopping.

(b) (i)- Divergent evolution / Adaptive radiation;

(ii)- G; capture and tearing prey

J; grasping twigs/branches;

H; wading/paddling in water;

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(iii) - H; webbed feet;

- G; sharp curved talons/claws;

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