

231/3
BIOLOGY
PRACTICAL
PAPER 3
JULY/AUGUST 2020

TIME 1 ¾ HOURS

KENYA CERTIFICATE OF SECONDARY EDUCATION
FORM FOUR EVALUATION EXAMINATION

MARKING SCHEME

1. a) P: Oesophagus/gullet
Q: gall bladder

- | <u>b) Adaptation</u> | <u>Reason</u> |
|----------------------|--|
| (i) Highly coiled; | - to show down the flow of food;
- allowing enough time for absorption; |
| (ii) Long; | - to increase the surface area for absorption.; |
| (iii) Narrow lumen; | - to bring the digested food closer to walls for absorption.; |

- c) S – Identify – caecum;

Role – Humbours/houses/ contains bacteria; that secret enzyme cellulose for digestion of cellulose.

- d) (i) Kingdom: Animalia. (Reject kingdom/Animal/ animal alone.)

Reason: Presence of limbs;
Presence of muscles;
Presence of digestive system etc.

- (ii) Class: Mammalia (Rej; mammal)
Reason: Presence of fur/hair/teeth etc.

- NB- e) (i) The labels of the heart and the trachea must be placed on the photograph. (2 marks)
(ii) Has rings of cartilage to keep it open/avoid collapsing.
Has cilia that waft dust from the lungs.
Has mucus to dissolve dust/dissolve gases. (Any 2)

2.

Food substance	Procedure	Observation	Conclusion
Starch:	To food add iodine solution;	Blue black/blue/black; Rej: black blue	Starch present;
Vitamin C Rej; vitamin alone	To dcpip and food; Rej: Dcpip added to food	Dcpip is decolourised/colour of Dcpip disappears;	Vitamin C Present: Rej: Vitamins present
Reducing sugars; Rej: Glucose	To food add benedict's solution and heat/place in a hot water bath;	Green-yellow-orange-brown colour: Rej: wrong colour sequence	Reducing sugar present;
Proteins:	To food add sodium followed by copper sulphate	No colour change:	Proteins absent:

Note: Rej: Wrong spellings of technical words and reagents

Award once for food substance, procedure, observations and conclusion

3. a) Q – Self dispersal;

Reason – Dihisent/line of weakness for opening

R – Wind dispersal;

Reason – Presence of the parachute for floatation in air

S – Animal dispersal;

Reason – The fruit is succulent

b) Q – Marginal placentation;

S – Parietal placentation;

T – Basal placentaion;

U – Axile placentation;

c) True fruit;

Reason – Develops from the ovary alone.

