
KENYA NATIONAL EXAMINATION COUNCIL

KCSE 2007

BIOLOGY PAPER 3 MARKING SCHEME

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24.4.3 Biology Paper 3 (231/3)

1

(a)

- 3(a) Leaves with serrated margin/toothed/saw like/teeth like.
 4(b) Leaves opposite.
 5(a) Leaves pinnate. (3 marks)

(b)

Specimen	Identity	Steps followed
P	Compositae;	1b,5a,6a
Q	Nyctaginaceae;	1a,2a,3b
R	Commelinaceae;	1a,2b
S	Bignoniaceae;	1b,5b
T	Papilionaceae;	1b,5a,6b
U	Malvaceae;	1a,2a,3a,4a
V	Verbenaceae;	1a,2a,3a,4b

(12 marks)

2

- (a) **Food substance:** Starch. (1 mark)
Procedure: Add (2) drops of iodine to solution P. (1 mark)
Observation: Bluish black/Blue/black. (1 mark)
Conclusion: Starch present. (1 mark)
- (b) **Food substance:** Reducing sugar. (1 mark)
Procedure: To (1 ml) of solution P, add equal amount of Benedict's solution/S. Warm/heat/boil the mixture. (2 marks)
Observation: Green to yellow to orange/ brown. (1 mark)
Conclusion: Reducing sugar present. (1 mark)
- (c) **Procedure:** Place a drop of solution P onto a filter paper. Gently dry over flame. (2 marks)
Observation: No permanent translucent spot/mark. (1 mark)
Conclusion: Lipids absent. (1 mark)

3

- (a) **J** - Lungs.
K - Gills. (2 marks)
- (b) Gaseous exchange /external respiration. (1 mark)
- (c)
- **X** - Ring of cartilage.
 - **Y** - Lung.
 - **Z** - Heart.
- (3 marks)
- (d) (i) **1:** Gill rakers.
2: Gill arch/bar.
3: Gill filaments. (3 marks)
- (ii)
- Rakelike/projections for trapping solid particles.
 - Rakelike/pointed/tooth like/needle like projections for trapping/sieving/filtering solid particles form reaching and damaging the filaments.
 - Many/numerous/long/filaments to increase surface area for gaseous exchange.
- (4 marks)