

**231/3**  
**BIOLOGY**  
**PAPER 3**  
**(PRACTICAL)**

**MARKING SCHEME**

1. (a) (i) Nephron✓  
(ii) A – Glomerulus✓  
B – Loop of Henle✓  
C – Distal convoluted tubule✓  
D – Collecting tubule/duct✓  
(iii) I – Glomerulus✓  
II – Proximal convoluted tubule✓
- (b) (i) - Cells of the tubule have microvilli which increase surface area✓  
(ii) - The tubule is long and highly coiled to provide a large surface✓  
(iii) – Tubule is well supplied with blood capillaries  
Any 2
- (ii) – Glucose✓  
- Amino acids✓  
- Salts✓  
- Water✓  
- Urea✓
- (c) Loop of Henle ✓ Any 2  
1mk
- (d) Long loop of Henle ensures maximum reabsorption ✓of water in animals that live in  
desert✓ and semi- arid area 1mk

**This paper consists of 2 printed pages**

**Turn Over**

2.

| Food being tested          | Procedure   | Observation                              | Conclusion                           |
|----------------------------|---|--|--------------------------------------|
| Protein✓                   | To food substance Q in a test – tube add sodium hydroxide followed by an equal amount of copper II ✓sulphate solution | Purple colour is observed✓               | Proteins present✓                    |
| Vitamin C ✓(ascorbic acid) | Place DCPIP in a clean test tube , add few drops of the food substance Q✓   | DCPIP solution is decolourized✓          | Presence of vitamin C/ascorbic acid✓ |
| Lipids✓                    | Put a drop of food substance Q onto a filter paper.✓ Dry it over a flame✓   | A translucent ✓spot appears on the paper | Presence of lipids✓                  |

13mks

3. (a) Labelling

4mks

(b) (i) Angiospermae✓

1mk

(ii) K – Monocotyledonae✓

L = Dicotyledonae✓

2mks

(c) K – Hypogeal

Reason – Cotyledon is below the soil surface

2mks

L – Epigeal

Reason – Cotyledon is above the soil surface

2mks

(d)

K

L

(i) Has fibrous root system

Has tap root system

(ii) Has one cotyledon

Has two cotyledons any 3 3mks

(iii) Has parallel veination

Has net veination

(iv) has hypogeal germination

Shows epigeal germination

(v) Cotyledons remain below the ground

Cotyledons are brought above the soil