**BIOLOGY**

**PAPER 3**

**MARKING SCHEME**

**Question 1.**

|  |  |  |  |
| --- | --- | --- | --- |
| Food substance | Procedure | Observation | Conclusion |
| Vitamin C/Ascorbic acid | -put DCPID in a test tube, ass suspension M drop wise as you shake. | The colour of DCPIP was retained. | Vitamin C absent |
| Protein | -put suspension M in a test tube add NaOH and shake, add copper (II) sulphate drop wise. | Violet purple, colour observed | Protein present |
| Fats (rej. Lipids) | -place a drop of suspension M on a filter paper pass the filter paper over source of heat gently | A translucent spot observed | Fats present |
| Reducing sugar | -put suspension M in a add equal amount of Benedict’s solution  Heat to boil | Blue colour of Benedict’s solution retained. | Reducing sugar absent |

**Question 2**

(a)

|  |  |  |
| --- | --- | --- |
| **Specimen** | **Step 1** | **identity** |
| L1 | 1b, 3a,4a | Bryophylum/Aloe |
| L2 | 1a,2b | Tradescantia sp |
| L4 | 1b, 3a,4b,5b | Mango leaf |
| L5 | 1b, 3b | Gravillea |
| L6 | 1a, 2a | Maize/grass leaf |

b) Drawing (2mks)

- Hand drawn.

- continuous outline.

- Double outline.

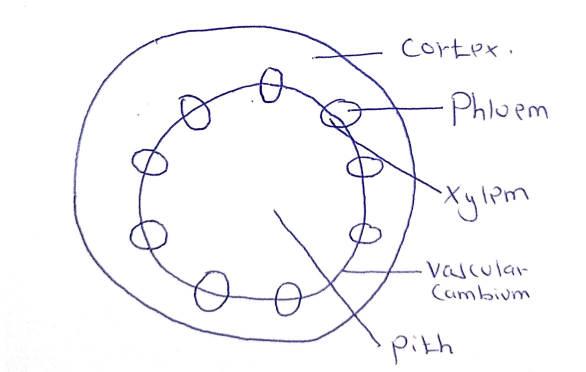
- No shading.

- Proportional.

- Vascular bundles on a ring.

Labeling (2mks)

* 4 labelled parts.
* Correct spelling.
* No contradiction.
* No arrows.
* Label line be continous.

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**Question 3**

(a) Magnification = Measurement of drawing

Actual length

= 6.5cm;

8.5cm

= 0.76;

(b) Tabulate four differences between specimens T and W

**T** **W**

\* Cylindrical body \* Dorsal laterally flattened body

\* 2 pairs of legs per segment \* 1 pair of legs per segment

\* Lacks poisonous claws \* has poisonous claws

\* Herbivorous \* carnivorous

\* More body segments \* fewer body segments

(c) \* disease vector

\* Maggot/larvae stage is an important decomposer

(d) \* Ability to fly

\* Compound eyes to see predator from far

\* Lower hind limbs have spikes for defense.

\* Camouflage to hide from predators