**MINCKS GROUP OF SCHOOLS**

**FORM FOUR**

**END OF TERM TWO 2022**

**BIOLOGY PAPER THREE (PP3)**

**MARKING SCHEME**

1.a)

|  |  |  |
| --- | --- | --- |
| **Test tube** | **Observation** | **Conclusion** |
| ABC | Blue blackBlue blackBlue black | Starch present;Starch present;Starch present; |

b)

|  |  |  |
| --- | --- | --- |
| **Test tube** | **Observation** | **Conclusion** |
| ABC | Blue blackBrown / Orange / yellow colour of iodine solutionBlue black | Starch present;Starch absent;Starch present; |

 (3mks)

c)i) B – Colour of iodine solution remains since starch has been digested / hydrolysed; acc; glucose / simple sugar / monosaccharide / disaccharide. (1mk)

ii) C – Blue-black since starch is present since Boiling denatured / destroyed L2 therefore no conversion; (2mks)

d)i) Salivary amylase / starch digesting enzyme / ptydlin / diastase; (1mk)

ii) It has digested starch

* Can be denatured / destroyed by boiling
* Acts within a narrow range of temperature / act at 35oc – 38oc / acts at suitable / optimum comparative. (3mks)

e)i) Animal – mouth / duodenum / small intestine; rej. Gut / digestive system / alimentary canal / intestine. (1mk)

 Plant – leaf of plant /

 Geminating seeds;

 Acc; correct storage organ (1mk)

ii) Starch is digested there /

 starch digesting enzyme is there / diastase enzyme is present there /

 amylase enzyme is there; (1mk)

2.a)i) The split curves with the cortex on the outside / with the epidermis on the inside. (1mk)

ii) The split curves with the epidermis on the outside / with the cortex on the inside. (1mk)

b)i) The splits were placed in a hypotonic solution; the cortical cells gained water by osmosis; became turgid; the epidermal cells are covered with a water proof cuticle; therefore did not gain water the curvature with the cortex on the outside. (4mks)

ii) The splits were placed in a hypertonic solution; the corical cells lost water big osmosis; become flaccid; the epidermal cells are covered with a water proof cuticle hence the curvature with epidermis on the outside. (3mks)

c) - Support due to turgidity

 - Opening and closing of stomata

 -feeding in insectivorous plants

 -Absorption of water. (3mks)

3.a) V – Atlas;

 W – Axis;

b)

|  |  |
| --- | --- |
| Bone V | Bone W |
| 1. Broader transverse processes
2. Absence of odontoid process
3. Smaller Centrum
4. Small neural spine
5. Wider neural canal
 | 1. Smaller transverse processes;
2. Presence of odontoid process;
3. Larger centrum,
4. Broad neural spine;
5. Narrower neural canal
 |

c) Occipital Condyle;

d) Allow passage of the spinal cord;

 Articulates with the odontoid process of the axis;

e) Odontoid process;

f) H – Support / bears the weight of the vertebrae above;

 J – Protects the spinal cord;