**BIOLOGY PRACTICAL MS**

1.

|  |  |  |  |
| --- | --- | --- | --- |
| Food | Procedure | Observation | Conclusion |
| Starch**✓ ½** | To 2ml of **Q** in a test tube, add 3 drops of iodine solution | Blue-black colour formed **✓ ½** | Starch present **✓ ½** |
| Protein **✓ ½** | To 2ml of **Q** in a test tube, add equal amounts of Sodium hydroxide solution then followed by a few drops of Copper (II) sulphate solution and shake | Purple colour formed **✓ ½** | Protein present **✓ ½** |
| Starch**✓ ½** | To 2ml of **R** in a test tube, add 3 drops of Iodine solution | Blue-black colour formed **✓ ½** | Starch present **✓ ½** |
| Protein **✓ ½** | To 2ml of **R** in a test tube, add equal amounts of Sodium hydroxide solution then followed by a few drops of Copper (II) sulphate solution and shake | Blue colour of CuSO4 persist**✓ ½** | Protein absent **✓ ½** |

 Total = 6 marks

b) (i) Q **✓1**

 (ii) It contains proteins **✓1**

c) (i) Salivary amylase/Ptyalin/Pancreatic amylase

 Pepsin/Trypsin **✓1**

 (ii) Enzyme- Salivary amylase Organ- mouth ✓1 both matched correctly

**Enzyme**- Pancreatic amylase **Organ**- Duodenum// Small intestine **✓1**

**Enzyme** – Pepsin **Organ**- Stomach **✓1**

**Enzym**e- Trypsin **Organ**- Duodenum// Small intestine **✓1**

2. (a) (i) Leaf **✓1**

(ii) – Presence of leaf blade/lamina

Presence of petiole/leafstalk/midrib

Presence of veins **Any first two ✓1 each**

b) (i) Dicotyledonae**✓1**

Reason

Network venation

Presence of petiole

broad leaves

c) (i) –Broad flat lamina- to increase the SA for absorption of CO2 and sunlight for photosynthesis.

-Thin lamina- it shorten the distance for sunlight and CO2

- Extensive veins to increase the SA for transportation of mineral salts and water for photosynthesis.

(ii) Has Stomata which allows exchange of gases

- Has intercellular air spaces which enable free circulation of air inside the leaf.

3. a) (i) Geotropism**✓1**

(ii) Auxins migrate to the lower side of the root/radical due to gravitational pull **✓1;** High concentration of Auxins in the roots inhibits growth**✓1;**  hence cells on the upper side of the root with low concentration of Auxins elongate**✓1** faster than those at the lower side hence the root curved downwards.

(iii) Gravitational pull was acting uniformly on the root tip,; hence no unequal distribution of Auxins. **✓1**

(iv) Enable roots to grow downwards into the soil so as to provide anchorage**✓1** and to access water and mineral salts**✓1**

(b) P- Humerous✓1 rej wrong sp

 Q- Scapula✓1 acc shoulder blade

(ii) **P-**  upper arm/upper forelimb/upper foreleg

 **Q-** shoulder/pectoral region

(iii) 2 and 3**✓1**

(iv) Hinge joint **✓1** Presence of troch /ear groove cochlea that fits into trochlea notch/sigmoid notch of ulna.

 - It allows movement in one plane, 180°

Ball and Socket joint**✓1 –** Presence of ball shaped head/rounded head that fits into the cup shaped glenoid cavity of the scapula.

-It allows movement in all planes/directions 360°

(v) Clavicle**✓1**