|  |  |  |  |
| --- | --- | --- | --- |
| **Food substance** | **Procedure** | **Observation** | **Conclusion** |
| Starch | To solution W add (2drops of)iodine solution | Brown/ yellow colour persist/remains  Rej. No colour change observed | Starch  absent |
| Reducing sugars | To solution W, add Benedict’s solution and heat to boil | Colour changes from blue to green to yellow to orange  Acc. Final colour.  Rej: red colour | Reducing sugars  present |
| Ascorbic Acid/vitamin C | To DCPIP, add the food solution dropwise, while shaking. | Blue color of the DCPIP retain/remain | Ascorbic Acid absent |
| proteins | To solution W add sodium hydroxide then copper (II) sulphate  Rej: heat | Blue color of copper (II) sulphate changes to purple | proteins  present |

**BIOLOGY CASPA MARKING SCHEME**

**FORM 4 TERM 1 2021**

**Question 1**

**Question 3**

(a) J – Lungs

K – Gills

(b) Gaseous exchange / external respiration

(c) X – Ring of cartilage

Y – Lung

Z – Heart

(d) (i) (1) Gill rakers

(2) Gill arch / bar

(3) Gill filaments

(ii) -Rake like / projections for trapping solid particles

-Toothlike/ needle like projections for trapping / sieving / filtering solid particles from damaging the filaments

-Many / numerous/ long filaments to increase surface area for gaseous exchange

**QUESTION 2**

a) A – plumule;

C – Hypocotyl;

D – Cotyledon/ seed leaf;

b) i) -Dicotyledonae;

ii) -Presence of two cotyledons;

-Network venation;

c) - Storage of food;

- Formation of the first seed leaf;

d) Auxins diffuse on the lower side of the root (due to gravity) in the root high concentration of auxin inhibits growth of the root, while low concentration promotes growth the root;

- Less auxins concentration on the upper side causes faster cell elongation than on lower side hence the formation of the curvature; (Max. 3)

e) Type – Epigeal germination;

Reason – cotyledons emerges above the ground;