**MARKING SCHEME**

 **P3 PREMOCK**

**BIOLOGY PAPER 3**

1.

|  |  |  |  |
| --- | --- | --- | --- |
| **LIQUID** | **PROCEDURE** | **OBSERVATION** | **CONCLUSION** |
| Q1 | Add iodine solution to solution Q1; | No colour changes/iodine colour remained /brown colour is retained; | No starch / starch absent; |
| Add equal amount of benedict’s Solution to Q1 and then heat.; | No colour change / benedicts solution remained unchanged /Blue colour of benedicts solution remains; | No reducing sugar/reducing sugar absent.; |
| Q2. | Add iodine solution to Q2; | Black/blue/black/Blakishblue/bluish/black colour forms; | Starch present; |
| Add equal amounts of Benedict’s solution to Q2 then heat; | Green yellow orange colours observed; | Reducing sugars present; |

 ½ mk each Total 6mks (b)

|  |  |  |
| --- | --- | --- |
| **LIQUID** | **OBSERVATION** | **CONCLUSION** |
| Q1 | Iodine colour retained /brown colour of iodine retained / No colour change; | No starch/starch absent; |
| Green ➙ yellow ➙ orange; ( correct sequence) | Reducing sugar present; |

 ½ mk each Total: 2 mks

 (c )i) Diffusion;

 (ii) Ileum / small intestine; placenta /lungs/ proximal convoluted tubule;

(d) The visking tubing is semi-permeable and has small pores; reducing sugar molecules are small and hence move from region of high concentration to region of low concentration into visking tubing; starch molecules are large and did not diffuse through the small pores of the visking tube;

2. (a) C -Hypocotyl

Importance —protects the plumule /shoot tip/first foliage leaves /opens path through the soil for the cotyledon to pass/pulls the cotyledon out of the soil.

D Cotyledons/seed leaves

Importance: Photosynthesis

Food storage /food reserves

Provide food for germinating seedlings /young plants.

E Coleoptile/plumule sheath Rej: cover/coat

Importance-protects the delicate tip/first leaves/foliage leaves

(b)

(i) nodules/root nodules

(ii) Rhizobium/Rhizobia/Rhizobium bacteria rej. Bacteria alone.

(iii) Symbiotic relatioship in which bacteria gets protection and nutrients while the plant gets nitrogen in form of nitrates fixed by bacteria.

(c) ( i) Epigeal

(ii) Cotyledons are brought out of the ground.

(d) Water

Oxygen;

 Optimum temperature

3. (i) 4.5 cm, 1 mk

(ii) Magnified size=4. 5 cm

mg = x 6

real size = 4.5;

 6

= 0.75 cm 2 mks

 (i) Dentine ; 1 mk

 (ii) Has cusps/ ridges; to enable it grind / chew food; (into smaller pieces)

 (iii) Blood vessels;ü 2 mks

 Nerve fibres; ü 1 mk