**F4 BIO (PRACTICAL) SUKELLEMO JET2021**

**PAPER 3MARKING SCHEME**

1. a) i) Solution turns blue- black in colour; 1 mk

ii) Indicates presence of starch in the solution; 1 mk

 b) i) No change in colour/ No colour change/ blue colour remains/persists; 1 mk

ii) Absence of reducing sugars 1 mk

c)

|  |  |  |
| --- | --- | --- |
| Test tube | Observation | conclusion |
| C | - Colour change to yellow/ orange/brown; ½ mk | - Presence of reducing sugars; 1 mk |
| D | -No colour change/ blue colour remains/persists; ½ mk | - Absence of reducing sugars; 1 mk |

d) C- Starch solution converted/ hydrolysed to reducing sugars; the 30 minutes

allowed hydrolysis of starch, by solution K, 2 mks

 D- The starch solution was not hydrolysed; hence absence of reducing sugar after

 30 minutes; Solution L prevented the hydrolysis by K; 2 mks

e) i) This is the human body temperature; it’s the best temperature for human enzymes

to work; Any one- 1 mark

 ii) K- amylase enzyme/ diastase 1 mk

 L- Hydrochloric acid (Hcl); acc enzyme- inhibitor 1 mk

2. a) i) Caryopsis

ii) Pod / legume

b)

 

Remains of style ;

 Pod;

 Persistent calyx;

Pedicel

 ***D1***

 ***L2***

 ***Max 3***

c) **D1 D2**

 i) One seeded fruit many seeded ;

 ii) Dry dehiscent Dry indehiscent;

 iii) No sutures presence of sutures;

 Similarities

* Both are fruits ;
* Have two scars ;
* Have pericarp;
* Develop from ovary ;

- Have means for attachment to plant; ( any two)

d) Kingdom Plantae;

 Division Spermatophyta;

1. Self explosive mechanism ;

3.a) i) Axis/ cervical vertebra

 ii)Odontoid process

 iii)Fits into the ventral side of the neural canal of the atlas to form a joint that allows the rotatory/turning

movement of the head.

b)**Ligaments**-holds bonestogether at a joint.

**Tendon**- attaches skeletal muscles to bones

 c)**F** and **K**

 d) Protects the spinal cord from physical/mechanical damage

 e)**D** and **G**

(f) (i) **A** is the male**√** while **B** is the female; **√** the male is larger and has gynecophoric canal**√** in which it carries the female to ensure eggs are fertilised as soon as they are released.

 (ii) Primary host: human being/man. **√**

 Intermediate host: water snail. **√**

(iii) Proper disposal of urine and faeces in deep pit latrines or flush toilets; **√**  avoid wading/bathing/ walking in fresh water habitats infested with snails; **√**  water should be boiled or chemically treated before drinking;**√** wear long gum boots and other protective gear when working in water infested with snails; **√** destroy snails by applying molluscides in water infested with snails. **√ *Award 1mk for any 1 correct X 2 = max* 2mks**