**SEPT/OCT 2022**

***231/3***

***BIOLOGY***

***PRACTICAL***

***PAPER 3***

**SEPT/OCT 2022**

***TIME 1 ¾ HOURS***

# BONDO SUB COUNTY JOINT EVALUATION

# *Kenya Certificate of Secondary Education 2022*

**231/3**

**BIOLOGY**

**PRACTICAL**

**PAPER 3**

**SEPT/OCT 2022**

**CONFIDENTIAL**

**MARKING SCHEME**

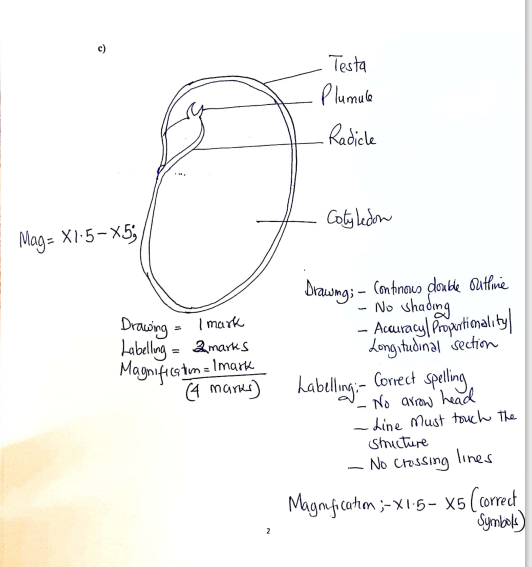
1. **a) i)A seed; (1 mark)**

**ii) has one scar; (1 mark)**

**b) Any first three(3 marks)**

* **Dissolves the hydrolysed food substances;**
* **Transports soluble food substances to the embryo/growing regions/ plumule and radical;**
* **Softens the testa to allow emergence of the radical;**
* **Hydrolyses the stored food substances;**
* **Activates the enzymes;(which begin the breakdown of the stored food substances;**
* **Acts as a medium for enzyme action;**

**c)**



**d) i)Spermatophyta;**

**ii) Ovule; accept ovules**

**2. a) (12 marks)**

|  |  |  |  |
| --- | --- | --- | --- |
| **FOOD SUBSTANCE** | **PROCEDURE** | **OBSERVATION** | **CONCLUSION** |
| **Starch;** | ***To 2cm3the food sample in the test tube***  ***Add 3 drops of iodine solution and shake ;*** | ***Blue black colour;*** | ***Starch present;*** |
| **Proteins;** | ***To 2cm3 of the food sample in the test tube***  ***Add 2cm3 of 10% Sodium Hydroxide and shake***  ***Add 1% Copper(II) sulphate drop wise and shake;*** | ***Purple colour colour ;*** | ***Proteins present ;*** |
| **Reducing sugar;** | ***To 2cm3the food sample in the test tube***  ***Add 2cm3 of Benedict’s solution and heat to boil;*** | ***Blue colour of Benedict’s solution persists;*** | ***Reducing sugars absent;*** |

**b i)** **Salivary Amylase/Ptyalin; (1 mark)**

**ii)** **Pepsin; (1 mark)**

**3.**

**(a)** . **(12marks)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Specimen | Type of fruit | Reason | Mode of dispersal | Adaptation to dispersal |
| **X** | ***Cypsela;*** | ***Persistent calyx;*** | ***Animal;*** | ***Presence of hooks for attachment to fur/clothing;*** |
| **Y** | ***Cypsela ;*** | ***Pappus of hairs;*** | ***Wind;*** | ***Hair like projections /pappus of hairs to increase surface area to be carried by air ;*** |
| **Z** | ***Legume/Pod;*** | ***Fruit wall not differentiated/presence of lines of weakness/sutures;*** | ***Self explosive mechanism;*** | ***presence of lines of weakness/sutures which splits open/dehisces;*** |

b)

(i) **(1 mark)**

**Axile/central; (1 mark)**

(ii)

***X is indehiscent while Z is dehiscent/X does not split open while Z splits open;*  (1 mark)**