**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)**