**Name: …………………………………………………… Index no ……..…...................................**

**School: ……………………………………………....…. Candidate’s sign ……………………....**

**Date: ……………………………………………**

**231/3**

**BIOLOGY**

**PAPER 3**

**March - 2019**

**TIME:1 ¾ HOURS**

**MOMALICHE JOINT EXAMINAITON**

***Kenya Certificate of Secondary Education (K.C.S.E.)***

**BIOLOGY**

**PRACTICAL**

**INSTRUCTIONS TO CANDIDATES:**

* *Write your* ***name*** *and* ***index number*** *in the spaces provided.*
* *Sign and write* ***date*** *of examination in the spaces provided above*
* *Answer* ***all*** *the questions in the spaces provided.*

***For Examiner’s Use Only:***

|  |  |  |
| --- | --- | --- |
| **QUESTIONS** | **MAXIMUM SCORE** | **CANDIDATES SCORE** |
| 1 | 13 |  |
| 2 | 15 |  |
| 3 | 12 |  |
| **TOTAL** | **40** |  |

1. You are provided with 8cm3 solution Q. Iodine solution, Benedict’s solution, dil HCL, sodium hydrogen carbonate, means of heating test tube rack, 3 dry test tube and a water bath.

Use the provided reageants and apparatus to establish food substances present in solution Q. Fill the observation and conclusion in the table provided.

(a) Take sample of solution **Q** and test them for the food substances present using the reagents provided. Record in a table, the food substance tested, the procedure of the test, the observations and conclusions. (9mks)

|  |  |  |  |
| --- | --- | --- | --- |
| **Food Substance** | **Procedure** | **Observations** | **Conclusions** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

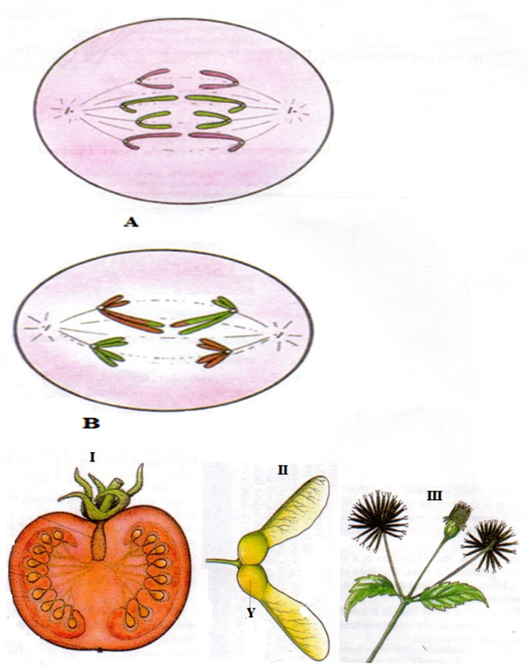
(b) How would you test for the presence of vitamins in solution Q (2mks)

....................................................................................................................................................................................................................................................................................................................................................

(c) State two food substance in Q and enzymes in human beings that would digest them. (2mks)

|  |  |
| --- | --- |
| Food substance | Enzyme |
|  |  |
|  |  |

2. Use the photographs provided to answer the questions that follow.



(a) (i) Identify the type of cell division represented in the photographs A and B (2mks)

A .................................................................................................................................................................

B ................................................................................................................................................................

(ii) with a reason, name the stage of cell division represented in each case (4mks)

A .............................................................................................................................................................

Reason

....................................................................................................................................................................................................................................................................................................................................................

B .............................................................................................................................................................

Reason

....................................................................................................................................................................................................................................................................................................................................................

(iii) Name the parts of human body where the process B represented above occur. (2mks)

....................................................................................................................................................................................................................................................................................................................................................

(b) (i) What type of fruits is represented by photograph I? Give two resons.

Type .............................................................................................................................................................

Reason

....................................................................................................................................................................................................................................................................................................................................................

(ii) Name the agent of dispersal for fruits II and III (2mks)

I ...............................................................................................................................................................

II ............................................................................................................................................................

(iii) How are the fruits adapted for the mode of dispersal stated in (b) (ii) above? (2mks)

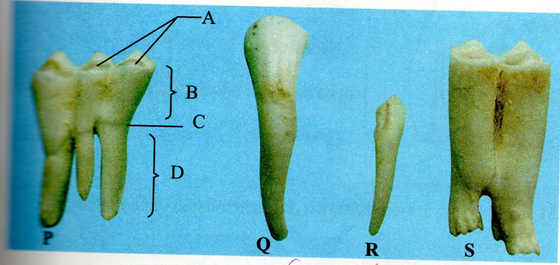
I ..................................................................................................................................................................................................................................................................................................................................................

II ..................................................................................................................................................................................................................................................................................................................................................

(iv) Identify the type of placentation shown by photograph I (1mk)

.......................................................................................................................................................................

3. The photography below shows four specimens labelled **P,Q R** and **S** which were obtained from the same animal. Examine them.



(a) With reasons identify P and Q (5mks)

P ..............................................................

Two reasons

.............................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................

Q ..................................................................

Reasons

.............................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................

(b) Based on their structure, suggest the functions of specimens P and Q. (2mks)

P ..........................................................................................................................................................

..............................................................................................................................................................

Q .............................................................................................................................................................

.................................................................................................................................................................

(c) In specimen P name the part labelled A (1mk)

A ...............................................................................................................................................

(d) Explain how specimen s is adapted for its functions. (2mks)

.............................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................

(g) Using observable features only, state

(i) One similarity between specimens Q and R (1mk)

....................................................................................................................................................................

(ii) One difference between specimens Q and R . (1mk)

....................................................................................................................................................................................................................................................................................................................................................