**NAME ……………………………………………. ADM NO …………………………..**

**SCHOOL …………………………………………… SIGNATURE …………………..………**

**DATE ……..…………………...**

**231/3**

**BIOLOGY**

**PAPER 3 (PRACTICAL)**

**OCTOBER/NOVEMBER 2013**

**13/4 HOURS**

**KILUNGU DISTRICT 2013**

**FORM FOUR ENTRANCE EXAMINATION**

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

**231/3**

**BIOLOGY**

**PAPER 3 (PRACTICAL)**

**OCTOBER/NOVEMBER 2013**

**13/4 HOURS**

**INSTRUCTIONS TO CANDIDATES**

* Write your name and Index Number in the spaces provided above.
* Sign and write date of examination in the spaces provided above.
* Answer **ALL** questions in the spaces provided in the question paper.
* You are **not** allowed to start working with the apparatus for the first 15 minutes of the 1**3/4** hours allowed for this paper. This time is to enable you to read the question paper and make sure you have all the chemicals and apparatus that you may need.
* All workings **must** be clearly shown where necessary.
* Mathematical tables and silent electronic calculators may be used.
* This paper consists of 4 Printed pages.
* Candidates should check the question paper to ensure that all the papers are printed as indicated and no questions are missing

**For Examiners use only.**

|  |  |  |
| --- | --- | --- |
| **Question** | **Maximum Score** | **Candidates Score** |
| **1** | **15** |  |
| **2** | **15** |  |
| **3** | **09** |  |
| **Total score** | **40** |  |

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231/3

Biology (Practical)

Paper 3

1. You are provided with a specimen labelled T. Make transverse section of the specimen.

 (a) Make a well labelled diagram of the cut surface. (5 marks)

(b) Name the type of placentation exhibited by the specimen (1 mark)

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(c) Give the mode of dispersal of specimen T. (1 mark)

 …………………………………………………………………………………………………………………..…………………………………………………………………………………………………………..

(d) Squeeze the juice from one of the halves into a beaker. Test it with iodine. Give your observation and conclusion.

 Observation (1 mark)

 ………………………………………………………………………………………………………………………………………………………………………………………………………………………………

 Conclusion (1mark)

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(e) Use the provided reagents other than iodine to test for the food substances present in the specimen. Write the food substance, procedure, observation and conclusion in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| Food substance | Procedure | Observation | Conclusion |
|  |  |  |  |
|  |  |  |  |

(6 marks)

2. Examine the specimens and the dichotomous key shown below.

 **SEE PHOTOGRAPHS ATTACHED**

1. (a) Leaf simple……………………………………………...... go to 2.

 (b) Leaf compound………………………………………….. go to 5

2. (a) Leaf parallel veined ……………………………………... commelinaceae

 (b) Leaf …………………………………………………….... go to 3

3. (a) Leaf margin smooth ……………………………………. go to 4

 (b) Leaf margin ……………………………………………. Verbenaceae

4. (a) Leaf apex smooth ………………………………………. Nyctaginaceae.

 (b) Leaf margin emarginated ………………………………. Fabaceae

5. (a) Compound leaf palmate………………………………… . Malvaceae

 (b) Compound leaf ………………………………………… go to 6

6. (a) Compound leaf ………………………………………… Bigoniaceae.

 (b) Compound leaf unipinnate ……………………………. go to 7

7. (a) Leaf with terminal leaflet ……………………………… Rosaceae

 (b) Leaf without terminal leaflet ………………………….. Papillionaceae.

(a) Complete the key shown above. (4 marks)

…………………………………………………………………………………………………………….……..………………………………………………………………………………………………………...……………………………………………………………………………………………………………….……..…………………………………………………………………………………………………………...

(b) Using the key, identify each of the specimen (A – H) into their respective families in the table below.

 (8 marks)

|  |  |  |
| --- | --- | --- |
| SPECIMEN | STEPS FOLLOWED | IDENTIFY (FAMILY) |
|  |  |  |

(c) To which class does specimen B belong? (1 mark)

…………………………………………………………………………………………………………………..…………………………………………………………………………………………………………..

…..………………………………………………………………………………………………………….

3. The photograph III and IV below represent two developmental stages of an organism. Photograph V

 shows the ventral side of the abdominal region of the stage in photograph III. Study the photographs and

 answer the questions that follow.

 **SEE PHOTOGRAPHS ATTACHED**

1. (i) State the phylum to which the photograph belongs. (1 mark)

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(ii) Give one reason for your answer. (3 marks)

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 (b) (i) State the class to which the organism belongs. (1 mark)

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(ii) Give three reasons for your answer. ( 3 marks)

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 (c) Name each of the stages of the life cycle shown in photographs III and IV. (4 marks)

 (i) Photograph III

…………………………………………………………………………………………………………………………………………………………………………….………………………………………

Reason:

……………………………………………………………………………………………………………………………………………………………………………………..………………………………

(ii) Photograph IV

…………………………………………………………………………………………………………………………………………………………………………………………..…………………………

Reason

……………………………………………………………………………………………………………………………………………………………………………………….……………………………

 (d) State one similarity between the stages III and IV. (1 mark)

……………………………………………………………………………………………………………………………………………………………………………………………………………………

 (e) Name the glands that secrete the hormone responsible for the transition between these two stages.

(1 mark)

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