**NAME………………………………………………………......... INDEX NO………………….………..…**

**SCHOOL…………………………………………………………CANDIDATE’S SIGNATURE….……..**

 **DATE………..………………………….**

**231/3**

**BIOLOGY**

**PAPER 3**

**(PRACTICAL)**

**TIME: 1 HR. 45 MIN.**

**Instructions to candidates**

1. Write your name, index number and school in the spaces provided above.

2. Sign and write the date of examination.

3. Answer all questions in the spaces provided.

4. You are required to spend the first 15 minutes of the 1¾ hours allowed for this paper

 reading the whole paper before commencing your work.

5. Additional pages ***must*** not be inserted

**For examiner’s use only**

|  |  |  |
| --- | --- | --- |
| **Question** | **Maximum** **Score** | **Candidate’s** **Score** |
| **1** | **14** |  |
| **2** | **15** |  |
| **3** | **11** |  |
| **Total score** | **40** |  |

1. You are provided with food substance in a beaker labeled **M**. Using the reagents provided

carry out tests to identify the food substances present. (8 marks)

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

1. Using a piece of thread tie one end of the visking tubing provided and put 10ml of substance **M** into its tie the other end. Ensure there is no leakage. Immerse the visking tubing into a beaker containing iodine solution. Leave it for 20 minutes.

(i) Identify the physiological process taking place in the above experiment. (1 mark)

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(ii) What is the observation at the end of this experiment. (1 mark)

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(iii) Account for the above results at the end of the experiment. (4 marks)

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2. The photographs labeled **A1**, **A2** are floral parts from two different plants. Study them carefully then answer the questions that follow.

 (a) Giving a reason state the plant division from which the specimens were obtained. (2 marks)

 Division \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Reason \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 (b) Name the agent of pollination of the above named specimens. (2 marks)

 Agent \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Using observable features only, state the major differences between specimen **A1** and **A2**.

(2 marks)

|  |  |
| --- | --- |
| A1 | A2 |
|  |  |
|  |  |

 (d) (i) Identify the parts labeled **J**, **K**, **R** and **M**. (4 marks)

 **J** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **K** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**R** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**M** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Name the type of response that enables fertilization to take place in **A1** and **A2**.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (1 mark)

 (e) Describe the floral parts of photograph **A2**. (4 marks)

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3. Photograph **below** is part of an alimentary canal of a certain animal.

 (a) Giving a reason, suggest the diet of the animal. (2 marks)

 Diet \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 (b) Name the parts labeled **S**, **T**, **U**. (3 marks)

 **S** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **T** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **U** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 (c) (i) On the diagram, label the part that harbours bacteria. (1 mark)

 (ii) What is the role of these bacteria to an animal. (1 mark)

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 (d) How is the part labeled **R** adapted to its functions. (2 marks)

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 (e) Name **two** enzymes in the alimentary canal that digest carbohydrates. (2 marks)

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