**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ INDEX NO: \_\_\_\_\_\_\_\_\_\_\_**

**DATE: CANDIDATE’S SIGN:**

**231/3**

**BIOLOGY**

**PAPER 3**

**PRACTICAL**

**JULY 2019**

**TIME: 1 ¾ HOURS**

**MOKASA II JOINT EVALUATION EXAMINATION**

**Kenya Certificate of Secondary Education**

231/3

**BIOLOGY**

PAPER 3

PRACTICAL

JULY 2019

TIME: 1 ¾ HOURS

**INSTRUCTIONS TO CANDIDATES**

* Write your Name and Index No. in the spaces provided above
* Answer ALL the questions in the spaces provided

**FOR EXAMINERS USE ONLY**

|  |  |  |
| --- | --- | --- |
| **QUESTION** | **MAXIMUM SCORE** | **CANDIDATES SCORE** |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| **TOTAL** |  |  |

1. You are provided with the following: pieces of thread, two pieces of visking tubing 6cm, Distilled water in a beaker, iodine solution in a beaker, Solution Y and Solution X. Open the two visking tubings and tie one end tightly. Using a dropper put 4 cm3 of Solution Y and 4 cm3 of solution X into each visking tubing, respectively. Ensure that the visking tubing containing solution X is immersed in the beaker containing iodine solution(set up **B)** and the visking tubing containing solution Y is immersed in beaker containing Distilled water (set up **A)** . Leave the set up for 30 minutes. Remove the Visking tubing and make observation

(a) State the observations 2 Marks

**A**……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….

**B**……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

(b) State the physiological process in 2Marks

**A**……………………………………………………………………………………………………

**B**……………………………………………………………………………………………………

(c) Account for the observation made in

**A**……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….. 2(marks)

**B**……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………… 3(marks)

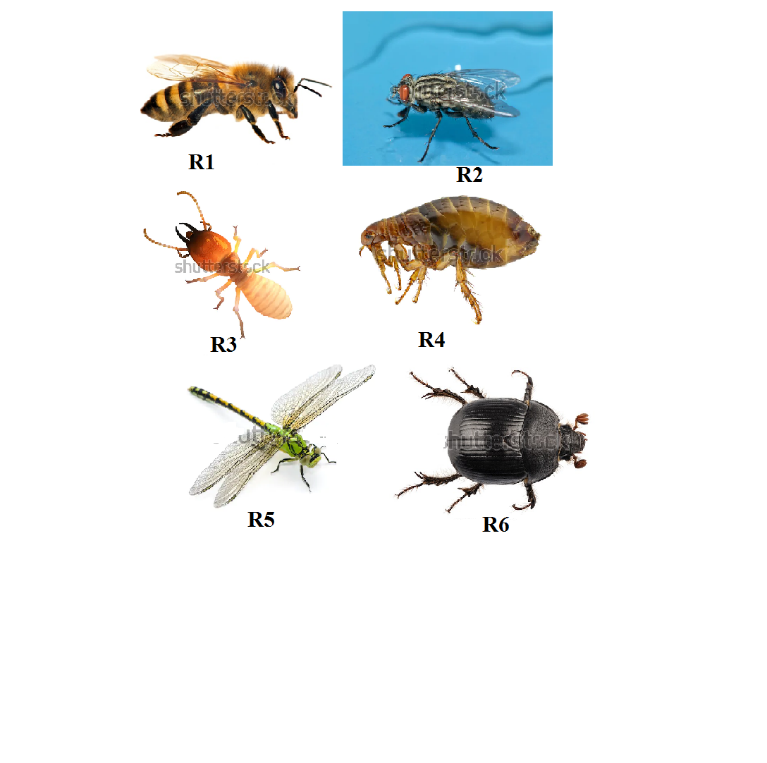
(d) State the importance of physiological process **A** in plants 2 Marks

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

(e) How can you speed the process in **B**? 1Mark

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

1. Below are photographs of invertebrates which belong to the same class. Examine them



1. To which class do the above invertebrates belong? 1Mark

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

1. State two characteristics of the class named in (a) above 2 Marks

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

1. Complete the dichotomous key below to identify the invertebrates to their orders 3marks

1a. Animal with wings …………………………………………………… go to 3

b. …………………………………………………….go to 2

2a. Animal with hairy body ……………………………………………………Siphonoptera

b. Animal with smooth body……………………………………………………Isoptera

3a. Animal with one pair of wings………………………………………………...Diptera

b. ………………………………………….........go to 4

4a. Fore wings hard/elytra…………………………………………………………Coleoptera

b. …………………………………………………. ....Go to 5

5a. Long slender abdomen…………………………………………………………Odonata

b. Short broad abdomen…………………………………………………………..Hymenoptera

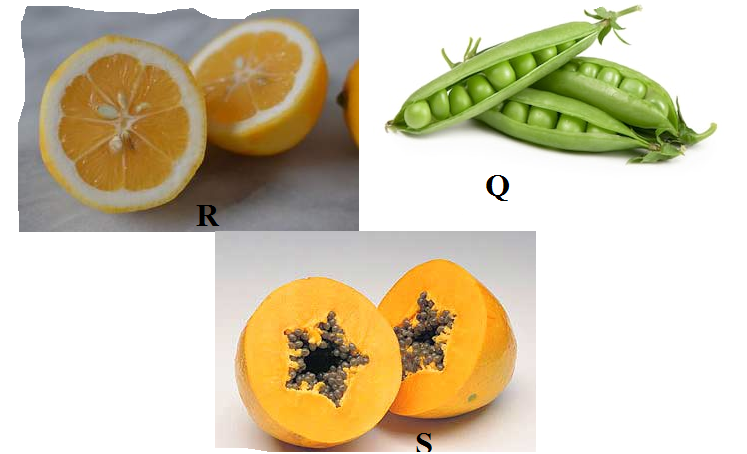
1. Using the dichotomous key above, identify to which orders the various organisms belong. In each case write down the steps that you followed to arrive at your answer. (6mks)

|  |  |  |
| --- | --- | --- |
| Specimen | Steps | Identity |
| **R1** |  |  |
| **R2** |  |  |
| **R3** |  |  |
| **R4** |  |  |
| **R5** |  |  |
| **R6** |  |  |

1. You are provided with specimen **K**. Use it to answer the questions that follow
2. Describe the floral parts 3 Marks
3. Cut the specimen **K** longitudinally. Draw one of the sections 4 marks
4. With a reason state the agent of pollination 2 Marks

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

1. The photographs labelled **Q, R**,and **S** are sections of some plant parts.



(i ) Name the type of placentation in the specimens shown in photographs **Q, R** and **S** (3 marks)

**Q**………………………………………………………………………………………………….

**R**………………………………………………………………………………………………….

**S**………………………………………………………………………………………………….

(ii) Giving a reason in each case, name the mode of dispersal of the specimen in photograph **Q** and **S** (4mark)

**Q** Mode……………………………………………………………………………………………..

Reason ……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..

**S**

Mode………………………………………………………………………………………………..

Reason

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

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