**Name ……………………………………………….…… Adm.No. ……..………Class …….……….**

**231/2**

**BIOLOGY**

**Paper 2**

**(Theory)**

**July 2012**

**2 hours**

**KIKUYU DISTRICT EXAMINATIONS BOARD**

**KCSE Mock Examination 2012 Form Four**

**INSTRUCTIONS TO CANDIDATES**

This paper has only **Two** sections A and B.

Answer **ALL** the questions in section A and Two Questions in section B.

All answers should be written in the spaces provided on the question paper.

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|  |  |  |
| --- | --- | --- |
| **Section** | **QUESTION** | **SCORE** |
| A | 1 |  |
|  | 2 |  |
|  | 3 |  |
|  | 4 |  |
|  | 5 |  |
| B | 6 |  |
|  | 7 or 8 |  |
|  | TOTAL |  |

**This paper consists of 8 printed pages**

**Candidates should check the question paper to ensure that all the printed pages are printed as indicated and no questions are missing**

**SECTION A (40 Marks)**

1.

**SECTION B (40 Marks)**

**Question 6 is compulsory. Attempt any other question between 7 and 8**

1. In an experiment, a group of female locust was provided with excess amounts of food from the day they moulted to adult stage up to the 20th day of adulthood. The average weight of dry faeces for each animal was estimated every 2 days. The average fresh weight of each locust was also calculated every second day. It was noted that they all laid eggs between day 12 and day 14 and again between day18 and day 20 of adult life. The data on average dry weight of faeces and weight every two days was presented in the table below.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Days of  Adult life | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
| Average dry  wt of faeces in mg. | 240 | 420 | 610 | 740 | 850 | 630 | 540 | 830 | 750 | 620 |
| Average fresh  wt of Locust in mg. | 530 | 750 | 840 | 970 | 1020 | 1160 | 860 | 980 | 1120 | 820 |

(a) Using a suitable scale and appropriate axis, **draw** a graph of the average fresh weight

against time. (7 marks)

(b) **What** is the relationship between food consumption and body weight? **Explain** this

relationship. (2 mark) ......................................................................................................................................

(c) **What** is the relationship between egg production and food consumption? **Account** for

this relationship. (1 mark) ......................................................................................................................................

(d) **What** is the relationship between body weight and food consumption? (1 mark) ......................................................................................................................................

(e) **State two** likely consequences that may happen if the amount of food was reduced to

one half of that required by each locust throughout the study period. (2 marks) ......................................................................................................................................

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(f) **State two** nutrients that must have been present in the locust diet giving a reason for

each. (4 marks)

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(g) If the population of locusts was established by Capture- recapture method, **state** the

formula you would use to get this estimate of population. (3 marks) ......................................................................................................................................

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7. a) How is the human ear adapted to hearing (10mks)

b) Describe how desert plants conserve water. (10mks)

8. Discuss the role of plant hormones in their growth and development and application in agriculture.

(20mks)

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