**231/2**

**BIOLOGY**

**Paper 2**

**(Theory)**

**July 2012**

**2 hours**

**KIKUYU DISTRICT EXAMINATIONS BOARD**

**KCSE Mock Examination 2012 Form Four**

**INSTRUCTIONS TO CANDIDATES**

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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.

**MARKING SCHEME**

**SECTION B (40 Marks)**

1. (b) As the food consumption – increase with age, the body weight increase; However when

maximum weight is reached, food consumption decreases (day 12 and day18). The

decrease in consumption is due to maturity of Eggs hence the abdomen will not

accommodate more food. After egg laying food consumption increases again since

more room is created; (O.W.T.T.E.)

(c) As eggs mature they occupy abdominal cavity lowering the food consumption. Food

consumption then increases after the egg laying.

(d) Food consumption is followed by increase in body weight;

(e) Decreases body weight accumulation;

Decreased egg maturation / No egg maturation;

(f) Carbohydrates – Energy giving / provision during respiration, growth and Egg

formation.

Proteins – Body building hence increase in weight. (N.B. – The nutrient should be tied to the reason)

(g) First number captured and marked. (Fm)

Second number captured. (Sc)

Number marked and recaptured (MR)

Population = Fm x Sc

MR

1. a) – Pinna; cartilaginous and funnel – shaped ; collects and directs / concentrates sound waves into the auditory meatus / canal ; External auditory meatus / canal; tube –like that directs sound waves to the ear drum / tympanic membrane ; Tympanic membrane / ear drum ; skin- tight / tough membrane; it receives sound waves and vibrates and transform sound waves into vibrations / transmit sound vibrations to the ear Ossicles; Ear ossicles ; Three in number arranged to form a system of levers; They amplifies ; and transmit vibrations to the oval window; Cochlea; lined with sensory receptor cell / filled with fluid / Endolymph / coiled to increase surface area for sensory cells for hearing ;

Auditory nerve; Consist of sensory neurone; transmit impulse to the brain for message interpretation

b) – Leaves reduced in size / to spine of reduces the surface area for water loss

* + - Shed -off leaves during dry season ; reduce surface exposed to transpiration;
    - Thick wax cuticle ; minimize cuticular transpiration;
    - Folding of leaves ; hid / not expose stomata ; reduces stomatal transpiration
    - Sunken stomata ; accumulate moisture / creating low diffusion gradient; thus reducing transpiration rate;
    - Few / reduced number of stomata ; lowers rate of transpiration
    - Reversed stomatal rhythm / open stomata at night and close during the day ; prevent excessive loss of water by transpiration

- Succulent stem; stores water ; used in dry season;

8. **Auxins/ IAA**

- Induces pattenocarpy in horticulture;

- Stimulates growth of adventitious roots in cuttings for vegetative, propagation;

- Stimulate cell division and elongation in shoots; promotes growth in stem

- Selective weed killers;

- Inhibits formation of side branches by removing apical bud; used in pruning tea, coffee

- Ripening of fruits;

- Leaf fall

***Total 10***

***Max 4***

**Gibberellins/ Gibberilic acid;**

- Stimulation of rapid growth; dwarf variety to grow to normal height/ bolting;

by cell elongation/ cell division;

- Inhibit growth main root; patternocapy

- Stimulate growth side branches;

- Inhibit growth of adventurous roots

***Total 7 mks***

***Max 4 mks***

**Cytokinns;**

-Promote cell division in presence of auxin and growth in plant

-Breaks seed dormancy;

-Repair of wounds in plants/ callus tissue

-Promotes flowering; retards aging

-Promotes fruit growth; of leaves 6mks

**Absissic acid;**  1mk

-Promotes fruit fall

-Promotes leaf fall

-Prevents seed from germinating/ dormancy of buds;

-Growth inhibitor; 4mks

**Ethylene;**

-Ripening of fruits

-Causes leaf fall

-Breaks dormancy in seeds/ buts; 4mks