THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL
DIPLOMA IN SECONDARY EDUCATION EXAMINATION

733/2A

BIOLOGY 2A
(ACTUAL PRACTICAL A)

Time: 3 Hours **Thursday, 07th May 2015 a.m.**

Instructions

1. This paper consists of **three (3)** questions.
2. Answer **all** questions.
3. Question number 1 carries 40 marks and the rest carry 30 marks each.
4. Cellular phones are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).

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1. You are provided with specimen **R**. Carry out dissection to display the digestive system.

   (a) Draw a large diagram of your dissection and label only the structures related to the system displayed.

   (b) Classify specimen **R** to class level.

   (c) Briefly describe two adaptations of specimen **R** to its mode of life.

   (d) Give four reasons why Biologists use specimen **R** for dissection instead of other larger animals.

   (e) **Leave your dissection properly displayed for assessment.**

2. During Terminal Examinations Mr. Uwezo prepared four solutions for his students each containing **one pure** food substance. At the end of the examination he discovered that the labels provided to the solutions were interchanged as follows:

   Solution **P** Glucose.
   Solution **M** Sucrose.
   Solution **Y** Protein.
   Solution **X** Starch.

   (a) Design and conduct an experiment to identify the correct food substance present in each solution by using the reagents provided. Present your report in the following format:

FOOD TESTED	PROCEDURE	OBSERVATION	INFERENCE

   (b) One of the food substance contained in one of the four solutions, its storage in the body is influenced by a hormone so that it should not occur in excess.
   (i) Name the food substance concerned.
   (ii) Name the hormone involved.
   (iii) In which form is the food substance stored?
   (iv) Where in the body is the food substance stored?
   (v) Where does the digestion of the food substance take place?

   (c) Among the food substances identified in (a), one is mostly recommended to elders.
   (i) Name the food substance recommended.
   (ii) What will happen if a child aged below five years lacks such food substance in her meals.
   (iii) Suggest three source of the food substance.

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3. You have been provided with specimens $\mathbf{K_1}$, $\mathbf{K_2}$, $\mathbf{S_1}$ and $\mathbf{S_2}$.

(a) Give three similarities and three differences between $\mathbf{K_1}$ and $\mathbf{K_2}$.

(b) Carefully cut specimen $\mathbf{K_1}$ longitudinally into two equal parts. With the cut surface facing uppermost, draw and label all the observable structures of the specimen.

(c) Open specimen $\mathbf{K_2}$ longitudinally into two halves.

(i) Draw a large labeled diagram of the two halves.

(ii) Suggest the mechanisms of propagation and dispersal for the plant from which specimen $\mathbf{K_2}$ was collected.

(d) With the aid of a hand lens, carefully study specimen $\mathbf{S_1}$ and $\mathbf{S_2}$.

(i) Identify each specimen by its common name.

(ii) State how specimen $\mathbf{S_1}$ is adapted to its mode of feeding.

(iii) Draw and label specimen $\mathbf{S_2}$ as seen by using a hand lens.

(iv) Suggest the possible habitat for specimen $\mathbf{S_2}$.

(v) State how specimen $\mathbf{S_2}$ is adapted to its habitat.

(vi) Classify specimens $\mathbf{S_1}$ and $\mathbf{S_2}$ to class level.

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