THE UNITED REPUBLIC OF TANZANIA NATIONAL EXAMINATIONS COUNCIL ADVANCED CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

133/2

BIOLOGY 2

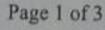
(For Both School and Private Candidates)

Time: 3 Hours

Tuesday, 10th May 2016 p.m.

Instructions

- 1. This paper consists of eight (8) questions in sections A, B, C and D.
- Answer five questions by choosing at least one (1) question from each section.
- Each question carries twenty (20) marks.
- 4. Except for diagrams that must be drawn in pencil, all writing should be in blue or black ink.
- Cellular phones are not allowed in the examination room.
- Write your Examination Number on every page of your answer booklet(s).



SECTION A

Answer at least one (1) question from this section.

- 1. (a) Give five reasons to justify the class to which cockroach belongs.
 - (b) Using examples, explain seven advantages of insects to human being.
- Using diagrams and one example in each case, classify bacteria on the basis of their morphology.

SECTION B

Answer at least one (1) question from this section.

- (a) Explain four major roles of the kidney.
 - (b) Describe the structure of mammalian nephron.
- Explain different ways used by endotherms to keep their body temperature constant.

SECTION C

Answer at least one (1) question from this section.

- 5. (a) Explain the following types of growth; give one example in each case.
 - (i) Intermittent growth
 - (ii) Allometric growth
 - (iii) Isometric growth
 - (iv) Limited growth
 - (v) Unlimited growth.
 - (b) State the roles of the following factors in seed germination.
 - (i) Water
 - (ii) Air
 - (iii) Optimum temperature.
- 6. In guinea pig (Cavia), there are two alleles for hair colour, black and white, and two alleles for hair length, short and long. In a breeding experiment all F₁ phenotypes produced from a cross between pure-breeding short-black haired and pure-breeding, long white-haired parents had short black hair.
 - (a) Which alleles are dominant? Give reason for your answer.
 - (b) Use cross diagrams to show both F1 and F2 results.

SECTION D

Answer at least one (1) question from this section.

- 7. Explain how different abiotic factors affect population distribution.
- 8. Describe types of communities (Biomes) and their global distribution.