THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

034/2 **AGRICULTURE 2**

Time : 2:15 Hours **ANSWERS** **Year : 2010**

Instructions

1. This paper consists three questions.
2. Answer **two** questions.
3. Communication devices and any unauthorised materials are **not** allowed in the examination room.
4. Write your **Examination Number** on every page of your answer booklet(s).

1. You are provided with specimens T_1, T_2, T_3, T_4 and T_5. Observe each of the specimens carefully and then answer the questions that follow:

(a) Name each of the specimens T_1, T_2, T_3, T_4 and T_5.
Specimen T_1 is maize.
Specimen T_2 is rice.
Specimen T_3 is wheat.
Specimen T_4 is sorghum.
Specimen T_5 is millet.

(b) State the botanical name of each specimen.
The botanical name of maize is Zea mays.
The botanical name of rice is Oryza sativa.
The botanical name of wheat is Triticum aestivum.
The botanical name of sorghum is Sorghum bicolor.
The botanical name of millet is Pennisetum glaucum.

(c) To what class of crops does each of the specimens belong?
All the specimens belong to the class of cereal crops because they are grasses cultivated for their edible grains.

(d) State the life span of each of specimens T_1, T_2, T_3, T_4 and T_5.
The life span of maize is annual, completing its cycle in one season.
The life span of rice is annual, grown and harvested in one season.
The life span of wheat is annual, harvested within a few months.
The life span of sorghum is annual, maturing within one growing season.
The life span of millet is annual, completing growth and harvest within one season.

(e) State the method of propagation for each specimen.
All the specimens T_1 to T_5 are propagated by seeds because they are cereals reproduced through grain planting.

2. You are provided with specimens S_1, S_2, S_3, S_4 and S_5. Observe each specimen carefully and then answer the questions that follow:

(a) (i) Name each of the specimen S_1, S_2 and S_3.

Specimen S_1 is a tsetse fly.

Specimen S_2 is a tick.

Specimen S_3 is a flea.

(ii) State two harmful effects of each of the specimens S_2 and S_3 to farm animals.

Ticks cause blood loss leading to anemia and transmit diseases such as East Coast fever.

Fleas irritate animals through bites and transmit tapeworms or bacterial infections.

(iii) State three control measures for each of the specimens S_2 and S_3.

For ticks, dipping or spraying animals with acaricides is effective, regular pasture rotation reduces tick infestation, and manual removal of ticks from animals is also done.

For fleas, maintaining hygiene in animal houses helps reduce infestation, applying insecticidal dust or sprays controls fleas, and removing bedding or waste material that shelters fleas is effective.

(b) Refer to the specimen S_1.

(i) Outline three diseases which are transmitted from one animal to another by specimen S_1.

The tsetse fly transmits trypanosomiasis, nagana, and sleeping sickness.

(ii) How would you control the diseases transmitted by specimen S_1?

The diseases can be controlled by clearing bushes which harbor tsetse flies, using traps and targets treated with insecticides, and treating infected animals with trypanocidal drugs.

(c) (i) Name specimen S_4.

Specimen S_4 is a mosquito.

(ii) How is specimen S_4 adapted to the function it performs?

The mosquito has piercing and sucking mouthparts adapted for sucking blood. It has long slender legs and wings that make it light and mobile, allowing it to locate and attack hosts easily.

(d) (i) Identify specimen S_5.

Specimen S_5 is a housefly.

(ii) Explain the relationship between specimens S_4 and S_5.

Both mosquitoes and houseflies are vectors of diseases to humans and animals. They rely on human or animal waste for breeding and spread pathogens through feeding and contact.

3. You are provided with specimens R_1, R_2, R_3, R_4, R_5, R_6, R_7 and R_8. Observe them carefully and then answer the questions that follow:

(a) Identify each of the specimens R_1, R_2, R_3, R_4, R_5, R_6, R_7 and R_8.

Specimen R_1 is a spanner.

Specimen R_2 is a hammer.

Specimen R_3 is a plier.

Specimen R_4 is a piston.

Specimen R_5 is a screwdriver.

Specimen R_6 is a filter.

Specimen R_7 is a gasket.

Specimen R_8 is a bearing.

(b) State the function(s) of each specimen.

The spanner is used for tightening or loosening nuts and bolts.

The hammer is used for driving nails and shaping materials.

The plier is used for gripping and cutting wires.

The piston is used for transferring force in engines by reciprocating movement.

The screwdriver is used for driving or removing screws.

The filter is used for removing impurities from oil or fuel.

The gasket is used for sealing joints between two engine parts.

The bearing is used to reduce friction between moving parts in machinery.

(c) Name two other types of specimen R_1 and state their functions.

Two other types of spanner are the adjustable spanner, which is used for nuts and bolts of different sizes, and the ring spanner, which grips nuts completely and prevents slipping.

(d) List any three parts of specimen R_4.

The piston has a piston head, piston rings, and piston pin.

(e) Explain the day-to-day care and maintenance of specimens R_6, R_7 and R_8.

The filter should be cleaned or replaced regularly to ensure proper functioning.

The gasket should be checked for wear and replaced when damaged to prevent leakage.

The bearing should be lubricated frequently and kept free from dust to prolong its life.

(f) From which type of a tractor engine was the specimen R_4 taken?

The piston was taken from an internal combustion engine.