

# CHRISTIAN SOCIAL SERVICES COMMISSION (CSSC)

## NORTHERN ZONE JOINT EXAMINATIONS SYNDICATE (NZ-JES)



### FORM SIX PRE-NATIONAL EXAMINATIONS 2026

#### 134/1 AGRICULTURAL SCIENCE 1

#### MARKING SCHEME

##### QUESTION 1:

Answers for questions from Procedure 1

- i. The aim was determination of amount of moisture in the soil sample A ( 2.5 Marks)
- ii. Yes, there was loss in weight of soil sample A ( 2.5 Marks)
- iii. The loss in weight was due to evaporation of water from the soil sample A ( 2.5 Marks)
- iv. This loss in weight indicate the presence of water in the soil sample A ( 2.5 Marks)

Answers for questions from Procedure 2

- i. The aim was determination of amount of organic matter in the soil sample A ( 2.5 Marks)
- ii. Yes, there was loss in weight of soil sample A ( 2.5 Marks)
- iii. The loss in weight of soil sample A was due to burning of organic ( 2.5 Marks)
- iv. This loss in weight indicate that the soil contains organic matter ( 2.5 Marks)

##### QUESTION 2:

a) (i)

| Parameters | Specimen B ( maize seedling)<br>Monocot | Specimen C ( Bean seedling)<br>Dicot |
|------------|---|--------------------------------------|
| Leaves     | Have parallel leaf veins                | Have net like leaf vein              |
| Roots      | fibrous roots like structure            | Tap roots like structure             |

**( 4 Marks)**

ii) B- Monocotyledon or monocot,. ( 1 Mark)

C- Dicotyledons or Dicot. . ( 1 Mark)

iii) Examples in B( Maize seedling) -----Wheat, Rice, Sorghum, Finger millet .etc . ( 1 Mark)

Examples in C( Bean seedling) -----Peas, Tomatoes,Mangoes, Oranges. etc . ( 1 Mark)

b) Specimen D ( Maize weevils):

- i. The aim of experiment is to identify the mode of feeding of this crop insect pest by observing it's mouth part ( 1 Mark)
- ii. Groups of insect pests according to their mode of feeding include;
  - a. Biting and chewing insects.eg. Grasshopper, beetles, locust and caterpillars ( 1 Mark)
  - b. Piercing and sucking insects. eg. Aphids, butterflies,and cotton strainers.( 1 Mark)
  - c. Boring insects .eg. Weevils and stem borers.( 1 Mark)
- iii. Benefits of proper identification of insect pests mouth part and mode of feeding includes;
  - a. Selection of effective control methods: contact or stomach poisonous is best pesticide for chewing insects. Also systemic insecticide is Best for control of piercing and sucking insects.
  - b. Reduction of crop damage: Early identification help to take timely control before serious damages.
  - c. Saving production costs: prevent wasting money on buying wrong chemicals that can not control pests.
  - d. Production of Better crop quality and higher profits: well protected crops produce good quality yields that fetch better market price.( Any 3 points= 3 Mark)

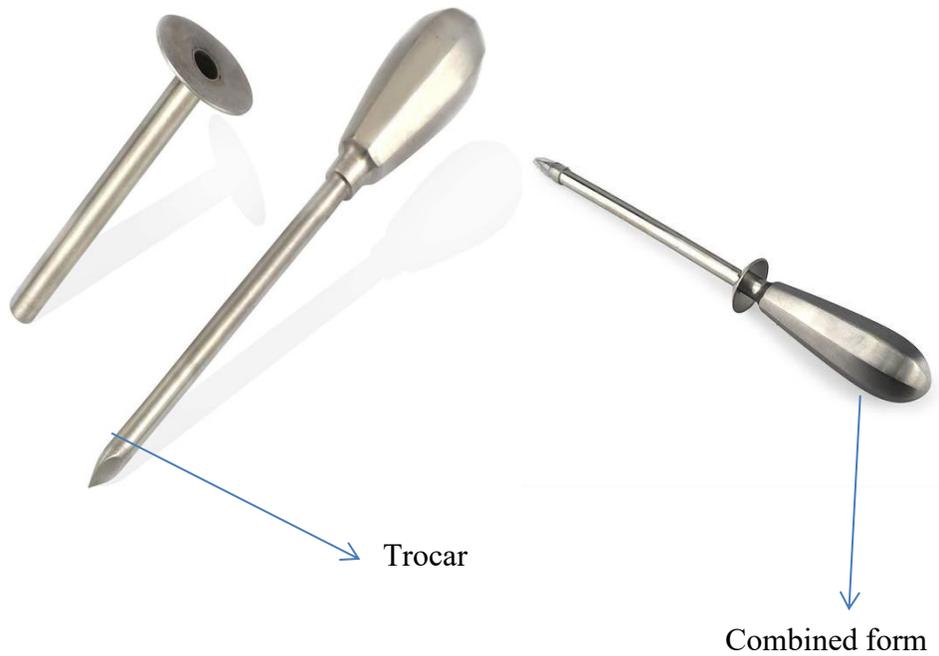
**QUESTION 3:**

i. E-- is called Trocar and canula ( 1 .5 Mark)

ii.



Canula



( 2Mark)

- iii. Bloat ( 2 Mark)
- iv. Left side of the animal stomach with exact position of rumen. ( 2 Mark)
- v. Procedures:
  - a. Restrain the bloated animal into the crush
  - b. Locate the exact position of rumen in the left side of animal stomach
  - c. Using trocar and canula together pierce through the skin into the rumen with Sharp point ( trocar)
  - d. Pull out trocar leaving the hollow tube ( canula) into the stomach. This will allow gases to come out through this hollow tube.
  - e. When the stomach relaxes and turn to normal size, remove the canula to allow the skin to go back covering the hole, then release the animal from the crush. ( 1.5@= 7.5 Marks)