

CHRISTIAN SOCIAL SERVICES COMMISSION (CSSC)
NORTHERNZONEJOINTEXAMINATIONSSYNDICATE(NZ-JES)



FORM FOUR PRE–NATIONALEXAMINATION AUGUST 2026

AGRICLTURAL SCIENCE 1

MARKING SCHEME

1 (1 @=10 marks)

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
B	A	D	B	B	B	D	C	A	D

2 (1@=6marks)

ListA	(i)	(ii)	(iii)	(iv)	(v)	(vi)
ListB	C	B	A	D	E	F

SECTION B

3. Preventative approach against livestock disease (six points @ 1.5 Marks)

- i. Vaccination
- ii. Control of vectors
- iii. Quarantine/isolation
- iv. Sanitation
- v. Proper nutrition
- vi. Use of prophylactics

4. Uses of the hone harvesting tools (@1 mark)

- (i) Bee veil - Protect the face and neck from bee sting.
- (ii) Plastic container - Used for placing honey after harvesting.
- (iii) Hive tool - Used to separate the top bar.
- (iv) Ventilated helmets - Keeps the head cool on hot days.
- (v) Gloves - protect the hand from bee sting.
- (vi) Foot wear - Protects the ankle from bee sting.
- (vii) Overall - Protects the body against bee stings.
- (viii) Bee smoker - Used to puff smoke into hives so as to calm down bee by disrupting their communication.
- (ix) Honey squeezer - Used to extract honey from combs.

5.

(a) Nomadic pastoralism is practiced by nomads such as Maasai and barbaig whereby a livestock keeper keeps a large number of animals such as cattle, goat and sheep and moves from one place to another in searching of pasture and water. (3 Marks)

(b) Factors to consider in selecting farm machinery (six points @ 1.5 Mark)

- (i) Type of soils - Heavy soil needs heavy machines.
- (ii) Size of the farm - Large scale farming encourages the use of Large machinery such as tractor.
- (iii) Topography - Different topographies of the farming environment may dictate the choice of a farm machinery to be used.
- (iv) Financial ability of the farmer. Farmer with enough capital may choice heavy and expensive machines.
- (v) Required depth of cultivation. Different implement can till the land at different depth depending on the needs of the farmer
- (vi) Required tilth of seedbed. .

6.(a) Criteria to consider in selecting planting materials (five points @ 1 mark)

- (i) Purity of the materials.
- (ii) Germination percentage.
- (iii) Disease resistance.
- (iv) Suitability of the materials to the ecological conditions
- (v) Certified planting materials.

(b) Criteria to consider in selecting cropping season: (Four points @ 01 mark)

- (i) Nature of the crops.
- (ii) Capacity of crops in using soil nutrients.
- (iii) Growth habits of the crop plants.
- (iv) Roots nature of the crop plants.

7.

Data
Outputs

4 culled cows = 1200 @ =48,000

Milk 10,000 gallons @ 250 = 2,500,000 (2 Marks)

Total output = 2,548,000

Variable cost

Animal feeds = 80,000

Veterinary service = 1,200

4 calves @ 2,300 = 9,200 (2 Marks)

Total variable cost = 90,400

Gross margin = ?

From

Gross Margin= total Output- total Variable cost

G/M = 2,548,000 - 90,400. (3 Marks)

= 2457600/50 = 49,152

To find gross margin per cow:

Gross margin per cow = 2457600/50 = 49,152

Gross margin per cow = 50,152.(2marks)

8.

I. Blossom end rot, wilting and increased disease attack eg blight.

II Forking of carrot roots, misshapen carrots and excessive vegetative growth.

III Cross pollination, uneven growth maturity, mixed fruit quality.

IV Excessive leaf growth, poor tuber formation, lodging.

V Root rot, delayed maturity, seed spoilage, fungal diseases.

V Poor photosynthesis, stunted growth, premature drying of leaves, nitrogen deficiency.

SECTION C

9.Necessary consideration when selecting a site for constructing an earth fish pond

Introduction : introduction (02 marks)

Main body 02 @=12 Marks

Conclusion 01 Mark

I .Reliable water supply

II. Suitable soil type

Iii .Accessibility

iv. Freedom from flooding

v Good topography

vi. Security and proximity to the farmers

10. Is the land conflict in Tanzania influenced by the land tenure system? if yes ,what should be done resolve the conflict

Answer

Introduction : meaning of land tenure system (02 marks)

Main body 02 @=12 Marks

Conclusion 01 Mark

Yes:land conflict are influenced by weakness in the land tenure system

The following measure can help to resolve them:

- i. Strengthen land laws
- ii. Issue legal land titles and Certificate to landowners to clarify ownership
- iii. Conduct proper land use plan to separate agriculture ,grazing ,residential and conservation areas
- iv. Educate the public on land right and land ownership procedures
- v. Improve land registration and surveying to reduce boundary disputes
- vi. Promote peaceful dispute resolution through village land councils mediation and the courts

11.Relationship between agriculture and other subject

ANSWER

Introduction : meaning of agriculture (02 marks)

Main body 02 @=12 Marks

Conclusion 01 Mark

- i. BIOLOGY- Help in understanding plant and animal growth ,reproduction ,disease and genetics
- ii. CHEMISTRY :Used in soil analysis ,fertilizer application ,pesticide formulation and nutrient management
- iii. MTHEMATICS :Used to calculate land areas ,fertilizer rate ,seed rate yields and profits
- iv GEOGRAPHY :Help in understanding climate ,rainfall ,soil and land forms that affect agriculture

- v. PHYSICS :Applied in the use and maintenance of farm machinery ,irrigation system and agricultural engineering
- v.ECONOMICS /COMMERCE :Help farmers with budgeting .marketing ,farm record keeping and profitable business decisions