

CHRISTIAN SOCIAL SERVICES COMMISSION- (CSSC)
NORTHERN ZONE JOINT EXAMINATION SYNDICATE(NZJES)



FORM FOUR PRE-NATIONAL EXAMINATION AUGUST 2024

Code:34/1

AGRICULTURE 1
MARKING SCHEME

1.

i.	ii.	iii.	iv.	v.	vi.	vii.	viii.	ix.	x.
A	C	D	D	E	C	B	B	A	E

@01 marks=10 marks

2.

i.	ii.	iii.	iv.	v.	vi.
I	G	C	F	D	A

@01 marks=06 marks

SECTION B (54 MARKS)

3. (a) Methods of drainage

(i)Open ditches

Ditches are a narrow channel dug in the ground for drainage or irrigation or as a boundary.

What is the size of ditches used in drainage?

(ii)Cut off drains

Used to take away the surplus water from the spring line or hillside so that the area will not receive surplus water from springs or hillside.

(iii)Ridges and cambered beds

Ridges are a strip of ground raised either side of a ploughed furrow so that crops can be grown on it. Cambered beds: These are slightly raised banks of the soil about 6 – 10 cm wide separated by shallow drains.

Examine the advantages and disadvantages of ridgers and cambered beds.

(iv)Sub-soiling/mole drains

Surface water logging caused by an impervious layer, sometimes due to repeated tractor operations on wet soil, can often be reduced by sub-soiling. A sub-soiler is a heavy cultivator with one or more tines which penetrate 20-60 cm or more into the soil. This

loosens and cracks the subsoil especially under fairly dry conditions, allowing improved drainage and root penetration, but it requires a powerful tractor. Mole drains are small tunnels constructed below the surface. They resemble the mole tunnels. They are usually made by a tractor pulling a cylindrical plug under the ground in a process known as moling. In steep areas, erosion can occur blocking the mole drains. Moling is done on crop land as the soil dries out.

(v) Use of deep-rooting crops:

Some crops seem to have effect on helping to dry out swampy areas, although some initial drainage is usually required to get the crops established.

State three examples of deep rooting crops used in drainage.

(vi) Porous pipe drains

Short pieces of pipes about 30 – 40 cm long are placed under the ground and run from end to end. **(Any five point among these@01 marks=05 marks)**

(b) Factors to consider in physical and financial planning for crop production

- i. Individual goal for crop production and their practicability
- ii. The available resources
- iii. Possible crop enterprises which can be undertaken
- iv. Compatibility of possible crop enterprises with available resources
- v. Growing considerations
- vi. Compatibility among crop enterprises if more than one enterprise has to be undertaken

(Any four points@01 marks=04 marks)

4. (a) Importance of soil profile

(i) It is important tool in nutrient management for crop production

(ii) Enable farmer to identify fertility of soil

(iii) Enable examination of various properties which influence life of plant and other organism in soil

(@01 marks=03 marks)

(b) Horizon of soil profile

(i) "O" horizon. Top layer of the soil

-It is usually dark brown in color due to presence of humus and high nutrient

-Presence of organic material such as grasses, twigs, dead leaves and animals

(ii) "A" horizon. Just below "O" horizon

-The only mineral horizon where plant grow well

-Leaching or eluviation due to removal of iron and humus

-Darker in color than underlying horizon

(iii) "B" horizon. Just below the "A" horizon

-It is lighter in color than over and underlying horizon

-Soil in "B" are clay like and they are finer than "A" horizon

(iv) "C" horizon. The third mineral horizon and is called parent material

-It contains very little soil which lack structure, that is the rock like pattern is still obvious

-It has rock which is slight affected by soil forming process and in most case with the color of parent material

@1.5 marks=06 marks

5. a) The following aspects need be followed in marketing of fish

- Pick a suitable market location
- Confirm market before harvesting
- Produce a marketable product
- Be part of outgrowers schemes **(4 points 4marks)**

b) The following are the aspects have to be adhered to as general management of fish health

- o Avoid stress of fish
- o Regular sampling of fish
- o Regular fish observation
- o In case of disease outbreak or high mortalities inform the authorities
- o Quarantine the pond in case of disease outbreak
- o Proper use of veterinary drugs and chemical

(Any five points 5marks)

5. (a) Mechanization is the use of machinery to replace human power in farm operations.

(01 marks)

(b) Factors limiting mechanization in agriculture

Several factors limit the effectiveness of mechanization in agriculture production as follows:

(i)Economic factors: In most cases, incomes of smallholder farmers are relatively low. Therefore, farmers have very low ability of investing in mechanization.

(ii)Technical and educational factors: These are factors associated with knowledge, skills and technical know-how of operating and maintaining farm machinery. Most small holder farmers have low level of knowledge thus, making it difficult for them to adopt mechanisation.

(iii) Topographical factors: Land features such as mountains, hills, valleys and steep slopes can limit mechanization.

(iv) Small farm size: Many peasants have small pieces of land which cannot be mechanized. In the modern world, due to its importance, many countries are making more efforts in investing in their home-made machinery industry or importing them. Tanzania for example, provided loans at relatively low interest rate in order to motivate farmers to invest in mechanized large-scale agricultural production.

@01 marks=04 marks

(c). Four points to convince farmers to adopt crop rotation.

- i. It improves the structure of the soil.
- ii. It increases soil fertility.
- iii. Help to control weeds, insect pests and diseases.
- iv. It helps to prevent soil erosions.

@01 marks=04 marks

7. (a) (i) Blossom end rot. **(01 marks)**

(ii) Causes

- Too much nitrogen at the early stages of crop
- Infrequent or irregular watering
- Calcium deficiency in young fruits

@01 marks=03 marks

(iii) Control

- Application of fertilizers that supply sufficient quantity of calcium i.e. CAN
- Avoid excessive nitrogen fertilizers at young age of the crop
- Water the plants regularly

@01 marks=02 marks

(b) factors should consider when designing a farm structure

- i. Intended use of the structure
- ii. Land consideration
- iii. Economy of constructions **(Any four points 1 @ total 04marks)**
- iv. Flexibility of design
- v. Scales of farm activities

8. (a) State that "Land in Tanzania belong to public but is vested in the president as trustee for and on behalf of all citizen of Tanzania" **(01 marks)**

(b) Categories of land tenure in Tanzania

(i) Private. The right on use control and transfer of land are given to private part which may include individuals, married couples, a group of peoples, or cooperate body such as commercial entities or nonprofit organization

(ii) Communal. All community members have right to use independent communal land and its resources (right of common)

(iii) Open access. Community or individuals has no control on access to land and its resources as specific right are not assigned to anyone and no one can be excluded

(iv) State owned. Ownership, access and control right are assigned to some authority in the public sector

(@02 marks=08 marks)

SECTION C (30% marks)

9. Meaning of agroforestry (2marks)

Limitation of agroforestry

- Time for payback
- Competition between different plant species in a farm
- Vulnerability of crops to pest and diseases
- Insufficient knowledge in integrating components of agroforestry
- Provide habitant to dangerous animals
- Incompatibility of agroforestry components

(Any six points 2=12marks)

Conclusion (1mark)

10. Problems that facing Agricultural marketing.

- Relevant introduction **(02 marks)**
- Main body.
 - Lack of constant supply
 - Lack of sophisticated storage facilities
 - Poor infrastructure.
 - Length of Agricultural community value chain
 - Accessing market information
 - Weak enforcement of grading guidelines.
 - In adequate access to finance.
 - High price of form input.
 - Unethical behavior.
 - Price fluctuation

➤ Political instability

Any 06 point 02@ total (12 marks)

Relevant conclusion (**01 marks**)

11. Introduction. (Meaning of decision making (**2 marks**))

Min body (Basic steps in decision making process)

- Identifying the problem
- Defining the problem
- Suggesting solutions
- Analysing the suggested solutions
- Selecting the best solutions
- Implementing the decision
- Evaluating the implemented decision

@02 marks=12 marks

Conclusion. (1 marks)