**AGRICULTURAL SCIENCE JSS 3**

**SECOND TERM**

## SCHEME OF WORK

**WEEK TOPIC**

1. Revision of Last Term’s Work

2 - 3 Agriculture in the Stock Exchange

4 - 5 Export Promotion in Agriculture

6 - 7 Nigerian Vegetation

1. Propagation of Crops
2. Revision
3. Examination

**REFERENCE BOOKS**

Junior Secondary Agriculture for Nigerian Schools Book 3, By Anthony Y. Etal

Prescribed Agriculture Science for Junior Schools by S.A. Omoniyi Etal

**WEEK ONE**

**TOPIC: REVISION OF LAST TERM’S WORK**

**CONTENT**

* Answers to last term’s objective questions
* Answers to last term’s theory questions

**WEEK TWO AND THREE |**

**TOPIC: AGRICULTURE IN STOCK EXCHANGE**

CONTENT

MEANING OF STOCK EXCHANGE:

A Stock Exchange serves as an organized platform where investors engage in buying and selling shares from a diverse range of companies. It's the marketplace where securities are traded, facilitating financial transactions.

TERMINOLOGIES IN STOCK EXCHANGE:

- Shares: These represent indivisible units of capital, signifying ownership relationships between holders and the company.

- Stock: It signifies the capital raised by corporations through the sale and distribution of parts or the entirety of the enterprise to multiple owners.

- Stockholders or Shareholders: These individuals legally own one or more shares of a joint-stock company.

- Stock Brokers: These are licensed representatives of individual shareholders, authorized to trade company shares.

EVALUATION:

1. Stock Exchange Definition:

A Stock Exchange provides an organized platform where investors trade a variety of company shares, enabling financial transactions.

2. Explanation of Terms:

A. Stock: It represents indivisible units of capital.

B. Shareholders: Individuals legally owning shares of a joint-stock company.

C. Stockbrokers: Licensed representatives trading company shares.

PRIVILEGES AND RIGHTS OF STOCKHOLDERS:

1. They can vote during the election of the board of directors.

2. They participate in the distribution of the company’s profit.

3. They have the opportunity to purchase new company shares.

4. They can acquire company assets when it faces financial instability.

EXAMPLES OF AGRICULTURAL BUSINESSES ON THE NSE:

1. Livestock Feeds Plc

2. Nigerian Breweries Plc

3. Nestle Nigeria Plc

4. Nigerian Bottling Co. Plc

5. Cadbury Nigeria Plc

6. Unilever Nigeria Plc

7. Flour Mills of Nigeria Plc

8. Dunlop Nigeria Plc

9. Ecobank Nigeria Plc

IMPORTANCE OF STOCK EXCHANGE IN AGRICULTURE:

1. Capital Generation:

Agricultural enterprises raise funds by offering shares, allowing public investments.

2. Wealth Redistribution:

Investors, including farmers, benefit from profits through dividends, sharing in business success.

3. Enhanced Governance:

Stock Exchange-listed agricultural firms maintain higher management standards and efficiency.

4. Inclusive Investment:

Both small and large-scale farmers can invest in shares, democratizing investment opportunities.

5. Economic Indicator:

Stock market movements reflect economic stability; rising shares indicate growth, offering insights into the nation's economy.

GENERAL EVALUATION

1. What is Stock Exchange?

2. Define the following terms A. Stock B. Shareholders C. Stockbrokers

3. List four privileges of Stockholders.

4. List five Agric business enterprises whose shares are traded on NSE.

5. List five importance of stock exchange in Agriculture.

WEEKEND ASSIGNMENT

1. The following are agribusiness enterprises except A. livestock feed plc B. Nestle Nigeria Plc C. Cadbury Nigeria Plc D. Mobil Oil Nigeria Plc

2. One unit of stock is called \_\_\_\_\_ A. a bank B. a share C. a tens D. a hundred

3. The \_\_\_\_\_ represents the potential buyers and sellers in a stock exchange A. stock holders B. stock buyer C. stock seller D. stockbroker

4. Stock Exchange can help in \_\_\_\_\_\_\_ of wealth A. gathering B. selling C. redistribution D. buying

5. Stock Exchange can be an indicator of the state of \_\_\_ A. Nigeria B. Africa C. Economy D. finance

THEORY

1. What are the things needed to be done by a company that wishes to enlist on the Nigerian stock exchange?

2. What does IPO mean?

3. a. What is Stock Exchange?

b. Define: (i) Stock (ii) Shareholders (iii) Stockbrokers

4. a. List five Agric business enterprises whose share are traded in NSE

b. List five importance of stock exchange in Agriculture

**WEEK FOUR AND FIVE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**WEEK TWO AND THREE |**

TOPIC: EXPORT PROMOTION IN AGRICULTURE

CONTENT:

MEANING OF EXPORT PROMOTION:

Export promotion in agriculture refers to a series of activities aimed at boosting the sales of agricultural products to foreign nations. These activities encompass:

1. Identification of products and markets.

2. Exploration of new investment opportunities.

3. Provision of trade-related information.

4. Offering support services like assistance with export procedures, product quality, export financing, and transportation.

5. Organization of trade fairs and trade missions.

Trade fairs are exhibitions designed to facilitate business transactions by bringing together producers and buyers in a conducive atmosphere.

Trade missions involve groups of individuals, including government representatives and private sector delegates, visiting foreign countries to promote trade.

Export promotion efforts are managed by organizations known as Trade Promotion Organizations (TPO). In Nigeria, the Nigerian Export Promotion Council (NEPC) is the federal agency responsible for trade promotion in Nigerian goods. Established through the Nigerian Export Promotion Act No 26 of 1976 and inaugurated in March 1977, NEPC has undergone amendments to enhance its performance and autonomy.

EVALUATION:

1. Export Promotion Definition:

Export promotion involves activities aimed at increasing the sales of agricultural products to foreign countries.

2. Activities of Export Promotion:

a. Identification of products and markets.

b. Exploration of new investment opportunities.

c. Provision of trade information.

List of Some Agricultural Export Products from Nigeria:

1. Cassava

2. Cashew nut

3. Charcoal

4. Chillies

5. Cocoa

6. Beans

7. Coffee

8. Cotton lint

9. Fish

10. Ginger

11. Groundnut

12. Gum Arabic

13. Horns

14. Kolanut

15. Poultry

16. Rubber

17. Sesame seed

18. Sheanuts

19. Shrimps

20. Skins

21. Snails

22. Tobacco

23. Vegetable oil

24. Wheat pellets

25. Yam

26. Grasscutter

Processed Foods, Vegetables, and Spices:

1. Ginger

2. Garlic

3. Ukazi

4. Cassava flour

5. Garri

6. Locust beans

7. Yam flour

8. Plantain flour

9. Ground rice

10. Ground melon

11. Dehydrated vegetables

Horticulture Products:

1. Okro

2. Mangetout (French beans)

3. Chillies

4. Mangoes

5. Pineapples

6. Sugar cane

7. Cut-live-flowers

IMPORTANCE OF EXPORT PROMOTION:

1. Employment Opportunities: Provides jobs in production, processing, transportation, and export sectors.

2. Foreign Exchange Earnings: Generates foreign exchange for both the exporter and the country.

3. Increased Farmer Income: Raises farmers' income through expanded markets and better prices.

4. Encourages Bilateral Trade: Fosters trade relationships among nations, enhancing global trade networks.

EXPORT PROHIBITIONS:

Export prohibitions regulate trade and safeguard natural and agricultural resources. Items prohibited from export according to the Nigerian Customs Service include:

1. Wet blue and unfinished leather.

2. Unprocessed rubber latex and lumps.

3. Wildlife animals classified as endangered species and their products.

EVALUATION:

1. Definition of Export Promotion:

Export promotion involves strategies to boost sales of agricultural products to foreign nations.

2. Definition of Trade Fair:

A trade fair is an exhibition facilitating business transactions between producers and buyers.

GENERAL EVALUATION:

1. Definition of Trade Mission:

A trade mission involves a group of representatives visiting a foreign country to promote trade.

2. Three Horticultural Export Crops:

a. Okro

b. Mangetout (French beans)

c. Chillies

3. Three Importance of Export Promotion:

a. Job Creation

b. Foreign Exchange Earnings

c. Increased Farmer Income

4. Function of NEPC:

The NEPC (Nigerian Export Promotion Council) promotes trade in Nigerian goods.

5. Two Export Prohibitions:

a. Wet blue and unfinished leather.

b. Unprocessed rubber latex and lumps.

WEEKEND ASSIGNMENT

SECTION A:

1. Third Largest Ginger Exporter:

- Correct Answer: (C) Nigeria

2. Non-Cocoa Producing State:

- Correct Answer: (D) Kano

3. Major Product from Cassava:

- Correct Answer: (D) Starch

4. Botanical Name for Soya Bean:

- Correct Answer: (B) Glycine max

5. Predominant Sesame Seed State:

- Correct Answer: (C) Jigawa

THEORY:

1. a. Export Promotion Explanation:

Export promotion involves strategies to boost agricultural product sales to foreign countries.

b. Activities in Export Promotion:

i. Identification of products and markets.

ii. Provision of trade information.

iii. Organization of trade fairs.

2. a. Importance of Export Promotion:

i. Job Creation

ii. Foreign Exchange Earnings

iii. Increased Farmer Income

iv. Encourages Bilateral Trade

b. Two Export Prohibitions in Nigeria:

i. Wet blue and unfinished leather.

ii. Unprocessed rubber latex and lumps.

**WEEKS SIX AND SEVEN**

**WEEK TWO AND THREE |**

**TOPIC: NIGERIAN VEGETATION**

**CONTENT:**

MEANING OF VEGETATION:

Vegetation refers to the plant cover on Earth's surface, encompassing trees, shrubs, grasses, and legumes.

NIGERIAN VEGETATION:

Nigeria's vegetation is categorized into three main types:

A. Forest Vegetation:

This type boasts significant tree cover and is characterized by tall trees with aerial and buttress roots, remaining evergreen throughout the year.

TYPES OF FOREST VEGETATION:

I. Mangrove Swamp Forest: Found in delta and coastal regions like Port Harcourt, Warri, Uyo, and Calabar. It features tall woody trees with aerial roots and broad evergreen leaves, including white mangrove and red mangrove trees.

II. Rainforest: Located in the southern regions of Nigeria, such as Benin, Sapele, Akure, Ibadan, and Abeokuta. Rainforests are characterized by tall trees with buttress roots, existing in bottom, middle, and upper layers, along with climbers, creepers, epiphytes, and numerous tree species like Iroko, Obeche, Mahogany, and African walnut.

B. Savanna Vegetation:

Savannas, or grasslands, in Nigeria are divided into Guinea Savanna, Sudan Savanna, and Sahel Savanna.

1. Guinea Savanna: Found in Enugu, Lokoja, Ilorin, Markudi, Osogbo, etc. It consists of tall grasses and few scattered deciduous trees such as oil palm, dum palm, shea butter, and Isoberlina.

2. Sudan Savanna: Located in Sokoto, Katsina, Kaduna, Kano, Dutse, Bauchi, etc. This region features short numerous grasses and scattered short deciduous trees like acacia, palm, silk cotton plants, and baobab.

3. Sahel Savanna: Found in Maiduguri and Damaturu, this area has short, scanty grasses, short tough shrubs/trees, and plants like acacia, gum Arabic, palm, and baobab. Sparse rainfall discourages extensive crop cultivation.

C. Montane Vegetation:

This type occurs in highland areas like Jos and Adamawa, featuring varied trees on the windward side and grasses on the leeward side. Short, scattered, deciduous trees are prevalent in this region.

IMPORTANCE OF VEGETATION:

1. Source of Food: Vegetation provides edible plants and fruits.

2. Timber Production: Trees from forests are harvested for timber.

3. Construction Material: Leaves and grasses serve as roofing materials.

4. Medicinal Use: Roots, barks, and leaves are utilized for medicinal purposes.

5. Raw Materials: Vegetation supplies raw materials for industries.

6. Tourism: Forests and natural landscapes attract tourists.

7. Employment: Provides jobs for hunters, lumbermen, and forest officers.

GENERAL EVALUATION:

1. Definition of Vegetation:

Vegetation refers to the plant cover on Earth's surface, encompassing trees, shrubs, grasses, and legumes.

2. Definition of Forest and Savanna:

- Forest: An area with significant tree cover.

- Savanna: Grasslands with scattered trees.

3. Characteristics of Sahel Savanna:

- Short, scanty grasses characterize Sahel Savanna.

4. Characteristics of Montane Vegetation:

- Montane Vegetation is associated with highland areas and features varied trees on its windward side and grasses on its leeward side.

5. Importance of Nigerian Vegetation:

- Provides food, timber, construction material, medicinal resources, raw materials for industries, tourism sites, and employment opportunities.

WEEKEND ASSIGNMENT:

1. Iroko, Obeche, Mahogany are found in \_\_\_\_\_\_ A. rain forest B. mangrove C. sudan savanna D. sahel savanna

2. The largest vegetation in Nigeria is \_\_\_\_\_\_\_\_\_\_ A. rain forest B. mangrove C. guinea savanna D. montane

3. The vegetation which is characterized by tall grasses is \_\_\_\_\_ A. guinea savanna B. sudan savanna C. sahel savanna D. montane

4. Forest do not provide which of the following? A. medicine B. food C. fuel D. automobiles

5. Area with highlands are usually characterized with \_\_\_\_\_\_\_ vegetation A. Savanna B. Forest

C. swamp D. montane

THEORY

1. a. List four characteristics of swamp forest

b. List two characteristics of rain forest.

2. a. What are the three types of vegetation in Nigeria

b. List three forest trees

**WEEK EIGHT \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**TOPIC: PROPAGATION**

**CONTENT:**

MEANING OF PROPAGATION:

Propagation simply means reproduction. It is necessary for crops to propagate so that they can increase in numbers and also maintain their useful characteristics.

METHODS OF PROPAGATION:

There are two types of propagation: sexual and asexual/vegetative propagation.

SEXUAL PROPAGATION:

Sexual Propagation involves planting crops by means of seeds. Seeds can be planted directly in the field or first in the nursery before being transplanted. Examples of seeds which are planted first in the nursery are oil palm, cocoa, coconut etc. Common crops that are propagated sexually include cowpea (beans), maize, pawpaw, rice, groundnut etc.

A seed when planted undergoes the following processes:

1. Germination: the process whereby the embryo of a seed resumes growth under favourable conditions.

2. Emergence: this refers to the appearance of a seedling above soil level.

Conditions necessary for germination of seeds are:

1. Adequate moisture

2. Viable seed (living embryo)

3. Optimum temperature

4. Adequate air

ADVANTAGES OF SEXUAL PROPAGATION:

1. Seeds are cheap to obtain.

2. The seeds are portable.

3. They are convenient to handle.

4. They are easy to store.

5. They are easy and cheap to transport.

6. Seeds can be stored for longer periods.

7. Crop population increase can easily be obtained through the use of seeds.

DISADVANTAGES OF SEXUAL PROPAGATION:

1. Some seeds produce plants that do not resemble their parent plants.

2. Some seeds produce low yields during the first year.

3. Plants grown from seeds are usually not uniform in growth, maturity and yield.

4. Plants grown from seeds take a long time to mature and produce fruits.

EVALUATION:

1. What is propagation?

2. Explain Sexual propagation.

ASEXUAL PROPAGATION:

Asexual propagation is the production of new plants from the parent plants using vegetative parts. The vegetative parts include the stem, leaves and roots. Asexual propagation is also being called vegetative propagation. Plants that need to be propagated asexually possess the following characteristics:

1. They do not produce seed e.g pineapple.

2. They produce seeds but are not viable for planting e.g Banana.

3. They take many years to mature and are easier to propagate via vegetative means e.g cocoa.

ASEXUAL PROPAGATION CAN BE DIVIDED INTO FIVE, NAMELY:

1. Division

2. Cutting

3. Layering

4. Grafting

5. Budding

DIVISION:

Division is the propagation of plants from special vegetative organs that separate naturally from the parent plant. Such organs include:

1. Rhizomes e.g ginger.

2. Suckers e.g. banana and plantain.

3. Bulbs e.g. onions.

4. Corm e.g. cocoyam.

EVALUATION:

1. What is asexual propagation?

2. List the four types of asexual propagation.

CUTTINGS:

Plants parts are cut into portions in order to produce new plants from them. Cuttings can be obtained from stems, leaves, and roots of plants and are used to propagate plants. For example:

1. Stem cutting is used to propagate cassava, sweet potato, and sugarcane.

2. Root cutting is used to propagate breadfruit.

3. Leaf cuttings are used to propagate bryophyllum.

LAYERING:

Layering is a method of vegetative propagation in which the stems or branches of plants are made to develop roots and give rise to another plant while they are still attached to the parent plant.

GRAFTING:

Grafting is a method of vegetative propagation in which cut surfaces of two different (but closely related) plants are joined together so that they unite and grow as a single plant. The lower part of this union is called the stock while the top is called the scion.

BUDDING:

Budding involves a desirable characteristic. The bud removed should have a piece of bark attached to it. The removed bud is then inserted into a cut already made in another plant called the stock. The inserted bud is the scion.

EVALUATION:

1. Explain stem cutting.

2. Explain layering and grafting.

ADVANTAGES OF ASEXUAL PROPAGATION:

1. Plants are true to type, uniform in quality, growth habit, and yield.

2. There is uniformity at maturity.

**WEEK NINE**

**REVISION**

**WEEK TEN**

**EXAMINATION**