UNIT-III

COMPONENTS OF AGRICULTURE

SHORT ANSWERS

1. Define soil.

- Soil is the upper most layer of the land surface.
- It is composed of minerals, organic matter, living organisms, air and water.
- Soils are formed by weathering of rocks under different conditions. It is one of the most important natural's resources.

2. Name the types of soil found in India.

The Indian Council of Agriculture Research (ICAR) has divided the soils of India into eight major groups.

- Alluvial soil
- Black soil
- Red soil
- Laterite soil
- Forest and mountain soil
- Arid and desert soil
- Saline and alkaline soil
- Peaty and marshy soil

3. State any two characteristics of black cotton soil.

Formation: Formed due to weathering of basalt rocks of Deccan trap. It is black in colour due to the presence of iron.

Chemical Properties: Rich in Iron, Calcium and Magnesium carbonates. Poor in Nitrogen, Phosphoric acid and humus.

Nature: Clayey, sticky soil. It has high degree of moisture retentivity.

4. Define Agriculture

Agriculture is the process of producing food for people, fodder for cattle, fibre and many other desired products by the cultivation of certain plants and rising of domesticated animals.

5. State the types of agriculture practices in India.

- Subsistence farming
- Shifting agriculture
- Intensive farming
- Dry farming
- Mixed farming
- Terrace cultivation

6. Name the seasons of agriculture in India.

- Kharif Season – June to September. Rice, Ragi, jowar, bajra, maize, groundnut and cotton are cultivated.
- Rabi Season – October to March. Wheat, Mustard, Maize are cultivated.
- Zaid Season – April to June. Fruits and vegetables rich in water content are cultivated.

7. Mention the plantation crops of India.

- Plantation crops are cultivated for the purpose of export, on hill slopes in large estates.
- Example: Tea, coffee, rubber and spices.

8. What do you mean by livestock?

- Livestock refers to rearing of domesticated animals such as cattle, goats, buffaloes, sheep and pigs.
- Livestock is an integral component of the farming system in India.
- It provides nutrient rich food products.
- It generates income and employment.

- It acts as a cushion against crop failure.

9. Write a brief note on the categories of fisheries in India.

- India has a long coastline and hence fishing is an important activity of the people living in the coastal areas.
- India occupies second place among the fish producing nations next to china.
- Fishing is India is classified into two types. They are:
    - Marine fishing or sea fishing
    - Inland fishing or fresh water fishing

PARAGRAPH ANSWERS

1. State any five types of soil in India and explain the characteristics and distribution of soil.

Introduction

- Soil is the upper most layer of the land surface.
- It is composed of minerals, organic matter, living organisms, air and water.

TYPES OF SOILS:

The Indian Council of Agriculture Research (ICAR) has divided the soils of India into eight major groups.

- Alluvial soil
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UNIT 3 AGRICULTURE

GIVE REASON

1. Agriculture is the backbone of India.
   Agriculture provides employment to more than 50% of the population of the country.
   It contributes 25 % of national income.
   Thus Agriculture is the backbone of India.

2. Rain water harvesting is necessary.
   India experiences tropical monsoon type of climate.
   Rainfall in India is seasonal , Irregular and erratic.
   Hence Rain water harvesting is necessary.

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DISTINGUISH BETWEEN

RABI SEASON	KHARIF SEASON
The Rabi season is from October to March	The kharif season is from June to September.
It is otherwise known as winter crop	It is otherwise known as summer crop
Wheat, mustard, gram, barley are the major crops cultivated here	Rice, ragi, groundnut are the major crops cultivated here

INUNDATION CANAL	PERENNIAL CANAL
The water is taken out directly from the rivers without any kind of barrage or dam.	These are developed from perennial rivers by constructing barrage to regulate the flow of water.
This canal operates during rainy season.	This canal operates for all the season.
Eg. Canals drawing water from R. Sutlej.	Eg. Ganga canal, Jamuna canal

ALLUVIAL SOIL	BLACK SOIL
It is formed due to the sediments deposited by streams and rivers.	It is derived from basalts of Deccan trap .
It is suitable for cultivation of rice, wheat, sugar cane and oilseeds	It is suitable for cultivation of cotton, millets tobacco and sugarcane.
It is Sandy –loamy silt –clay in nature.	It is sticky when wet. High degree of moisture retentivity.

Marine fishing	Inland fishing
It includes coastal , off-shore and deep sea fisheries mainly on continental shelves.	Rivers, lakes, canals, reservoirs, ponds, tanks etc are the sources of fresh water fisheries .
Kerala leads in the marine fish production in India.	Andhra Pradesh is the leading producer in india.

INDIA –AGRICULTURE

1. State any five types of soil in India and explain the characteristics and distribution of soil:

INTRODUCTION

- Soil is the finest particle found on the earth surface.
- The different types of soil are:

- Alluvial soil
- Black soil
- Red soil
- Laterite soil
- Forest and mountain soil
- Arid and desert soil
- Saline soil and Alkaline soil
- Peaty and marshy soil

- **Alluvial Soil**

Formation:

Sediments deposited by streams and rivers when they slowly loose.

Chemical properties:

Rich in potash, phosphoric acid ,carbon compounds and lime but poor in nitrogen.

Colour:

Light coloured (Khadar) Dark in colour (Bhangar)

Distribution:

Ganga and Brahmaputra river valleys, plains of Uttar Pradesh, Uttaranchal, Punjab, Haryana,West Bengal and Bihar.

Crops: Rice and Sugarcane.

- **BLACK SOIL:**
- Formation:

  Derived from basalts of Deccan trap.
- Chemical properties:
  - Consists of Calcium and magnesium carbonates, high quantities of Iron, aluminium, lime and magnesia.
  - Rich in potash, and lime, poor in nitrogen and phosphoric acid and humus

Nature:

Sticky when wet, high degree of moisture retentivity.

Colour:

Black colour due to presence of titanium and iron.

Distribution:

Maharashtra and Malwa plateau, Kathiawar Peninsula,Telangana and Rayalaseema of Andhra Pradesh, northern part of Karnataka.

Crops: Cotton and millets.

RED SOIL:

Formation:

Decomposition of ancient crystalline rocks like Granites and gnessises.

Chemical properties:

Rich in minerals such as iron and magnesium .
Poor in nitrogen, humus, lime and phosphoric acid.

Nature :

Light textured, porous friable presence of limited Soluble salts.

Distribution:

Eastern parts of Deccan plateau, southern states of Kerala, Tamil Nadu, Karnataka and Jharkhand.

Crops: Wheat and pulses.

LATERITE SOIL:

Formation:

Formed in the regions where alternate wet and hot dry conditions prevail.

Chemical properties:

Composed mainly of hydrated oxides of iron and Aluminium.

Nature:

More acidic in higher areas, poor in high level, Cannot retain moisture.
In plains it is clayey and retains moisture.

Distribution:

Assam hills, hills of Kerala and Karnataka and Eastern ghats and Odisha.

Crops: Coffee and Rubber.

FOREST AND MOUNTAIN SOIL:

Formation:

Formed due to mechanical weathering caused By snow, rain, temperature variation.

Chemical properties:

Deficient in potash, phosphorus and lime.
Rich in humus.

Nature:

Light, sandy, thin, and found with the pieces of Rock.

Distribution:

Jammu and Kashmir, Himachal Pradesh, Sikkim, Uttarakhand and Eastern and Western ghats.

Crops: Tea, coffee, potato.

Conclusion:

The rich, deep and fertile soils supports high Density of population through agricultural prosperity.

UNIT -3 AGRICULTURE –PARAGRAPH

2. What is multipurpose project and write any two multipurpose Projects of India?

Introduction:

Multipurpose project is a scientific management of water resources in India.

Construction of dam across rivers is aimed at many purposes, such as irrigation, hydro power generation, water supply for drinking and industrial purposes, controlling floods, development of fisheries, navigation.

BHAKRA-NANGAL PROJECT:

This project is constructed across the river Sutlej.
It is the highest gravity dam in the world.
The states benefitted are the Punjab, Haryana and Rajasthan.
The area of irrigation is 52,609 sq.km.
It produces 1500 MW of hydro power.

HIRAKUD PROJECT:

This project is constructed across the river Mahanadi.
It is the largest dam in the world.
The state benefitted is Odisha.
The area of irrigation is 1,41,600 sq.km.
It produces 347.5 MW of hydro power.

CONCLUSION:

Majority of multipurpose projects are combination of Irrigation and hydro power which are the major aims of the projects.

3. Bring out the characteristics of Intensive and Plantation farming:

Introduction:

Agriculture plays a vital role in socio - economic development of India.

It is a source of livelihood and food security for Indians.

INTENSIVE FARMING:

It is an agricultural intensification and mechanization system that aims to maximize yields from available land through various means, such as heavy use of pesticides and chemical fertilizers.

PLANTATION FARMING:

Plantation crops are cultivated in large estates on hilly slopes. They are cultivated for the purpose of export.

Tea, Coffee Rubber and Spices are the major plantation crops of India.

CONCLUSION:

Agriculture constitutes large share of country's national income because more than half of India's workforce is employed in agriculture.

4. Examine the geographical conditions favourable for the cultivation of Rice and Wheat:

INTRODUCTION:

Indian agriculture is largely dominated by the food crops due to its large population.

RICE:

Rice is an indigenous crop.
India is the second largest producer of rice in the world.
It is a tropical crop.
It requires a mean temperature of 24 degree Celsius.
It requires annual rainfall of 150 cm.
Deep fertile clayey or loamy soil is required for cultivation.
It also needs abundant supply of cheap labour.
In India Rice is sown in three ways namely, Broadcasting, ploughing ot drilling, and transplanting.
Due to increase use of high yielding variety seeds, many of the indigenous varieties have disappeared.

AREAS:

West Bengal, Uttar Pradesh, Punjab, Haryana, Tamil Nadu, Andhrapradesh, Bihar, Chattisgarh Odisha, and Assam.

WHEAT:

It is the second most food crop of the country.

It accounts for 22% of the total area and 34% of the total production of food grains in the country.

It requires 10-15 degree Celsius at the time of sowing and 20-25 degree Celsius at the time of ripening of grains.

Over 85% of India's wheat production comes from Uttar Pradesh, Punjab, Haryana, Rajasthan and Madhya Pradesh.

Apart from these regions, the Black soil tract of the deccan covering parts of Maharashtra and Gujarat also contribute a major wheat production.

CONCLUSION:

The Indian Council of Agricultural Research was established to transform food deficit to food surplus country.