TYPES OF FARMING:

Q.1 Mention the factors which has influenced the change in the methods of cultivation. OR Why the farming methods vary from subsistence to commercial in India?
Ans. Indian Agriculture is an age-old economic activity. The cultivation methods vary from place to place due to:
   • The variation in the characteristics of physical environment,
   • Technological know-how and
   • Socio-cultural practices.
And because of it the Farming in India varies from subsistence to commercial type.

1. Primitive Subsistence Farming
Q.2 State any four characteristics of Primitive Subsistence Farming.
Ans. In this type of farming farmers grow crops for self consumption. This type of farming is still practised in few pockets of India.
   • It is practised on small patches of land.
   • Farmers use primitive tools like hoe, dao and digging sticks,
   • Only family/community labour is used for farming.
   • This type of farming depends upon natural conditions such as monsoon, natural fertility of the soil and suitable conditions for the crops.
   • It is also known as slash and burn’ agriculture.
   • Land productivity in this type of agriculture is low as the farmer does not use fertilisers or other modern inputs.
Q.3 What do you mean by slash and burn or shifting agriculture?
Ans. In this type of farming-
   • Farmers clear a patch of land and produce cereals and other food crops to maintain their family.
   • When the soil fertility decreases, the farmers shift and clear a fresh patch of land for cultivation.
   • This type of shifting allows Nature to reload the fertility of the soil through natural processes.
Q.4 Mention different names by which this type of farming is known in India. Name the states where this type of farming is practiced in India.
Ans. It is known by different names in India.
   • Jhumming in north-eastern states like Assam, Meghalaya, Mizoram and Nagaland;
   • Pamlou in Manipur,
   • Dipa in Bastar district of Chattishgarh, and in Andaman and Nicobar Islands.
Q.5 Mention any two crops grown in this type of farming.
Ans. In this type of farming mainly food grain crops are grown such as rice, maize, millets.

2. Intensive Subsistence Farming
Q.6 State any four characteristics of Intensive Subsistence Farming. Name any two states of India where such farming is practised?
Ans. This type of farming is practised in areas of high density of population where pressure of population is high on agricultural land.
   • It is labour-intensive farming,
High doses of biochemical inputs and irrigation are used for obtaining higher production.

- Farm size is small and uneconomical due to the division of land,
- The farmers take maximum output from the limited land.
- Farmers do not have any alternative source of livelihood. Thus, there is enormous pressure on agricultural land.

### 3. Commercial Farming

**Q.7** State any four characteristics of Commercial Farming.

**Ans.** Commercial farming has following characteristics:

- Farmer use of higher doses of modern inputs, e.g. high yielding variety (HYV) seeds, chemical fertilisers, insecticides and pesticides.
- Farmer obtain higher productivity from land due to high doses of inputs.
- The degree of commercialisation of agriculture varies from one region to another. For example, rice is a commercial crop in Haryana and Punjab, but in Orissa, it is a subsistence crop.
- Plantation is also a type of commercial farming.

### Plantation Farming

**Q.8** State any four characteristics of Plantation Farming.

**Ans.** Plantation farming is a type of commercial farming. Large plantations of crop is made.

- In this type of farming, a single crop is grown on a large area.
- The plantation has an interface of agriculture and industry.
- Capital intensive inputs such as modern machinery are used with the help of migrant labourers.
- The production is mainly for market and all the produce is used as raw material in respective industries.
- It requires well-developed network of transport and communication to connect the plantation areas, processing industries and markets together.
- In India, tea, coffee, rubber, sugarcane, banana, etc. are important plantation crops.

**Q.9** Name the state where plantation farming is practiced.

**Ans.**

- Tea in Assam and North Bengal.
- Coffee in Karnataka.

### CROPPING PATTERN

**Q.10** Explain the features of three cropping seasons in India.

**Ans.** The three cropping seasons in India are rabi, kharif and zaid.

1. **Rabi crops**
   
   a. These crops are sown in winter from October to December and harvested in summer from April to June.
   
   b. Some of the important rabi crops are wheat, barley, peas, gram and mustard.
   
   c. Northern and northwestern states such as Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir, Uttarakhand and Uttar Pradesh are important for the production of rabi crops.
   
   d. Success of Rabi crops depend on the availability of precipitation during winter months due to the western temperate cyclones.
e. However, the success of the green revolution in Punjab, Haryana, western Uttar Pradesh and parts of Rajasthan has also been an important factor in the growth of the above-mentioned rabi crops.

2. **Kharif crops**
   a. These crops are grown with the onset of monsoon and harvested in September-October.
   b. Important crops grown during this season are rice (paddy), maize, jowar, bajra, tur (arhar), moong, urad, cotton, jute, groundnut and soyabean.
   c. Some of the most important kharif regions are Assam, West Bengal, coastal regions of Orissa, the Konkan coast, Uttar Pradesh and Bihar.

3. **Zaid season**
   a. In between the rabi and the kharif seasons, there is a short season during the summer months known as the Zaid season.
   b. Some of the crops produced during ‘zaid’ are watermelon, muskmelon, cucumber, vegetables and fodder crops and Sugarcane.

### MAJOR CROPS

1. **Rice**
   a. It is the staple food crop of a majority of the people in India.
   b. Our country is the second largest producer of rice in the world after China.
   c. It is a kharif crop
   d. It requires high temperature, (above 25°C)
   e. and high humidity with annual rainfall above 100 cm.
   f. In the areas of less rainfall, it grows with the help of irrigation.
   g. Rice is grown in the plains of north and north-eastern India, coastal areas and the deltaic regions.
   h. Development of dense network of canal irrigation and tubewells have made it possible to grow rice in areas of less rainfall such as Punjab, Haryana and western Uttar Pradesh and parts of Rajasthan.

2. **Wheat**
   a. This is the second most important cereal crop. It is the main food crop, in north and north-western part of the country.
   b. This rabi crop
   c. It requires a cool growing season and a bright sunshine at the time of ripening.
   d. It requires 50 to 75 cm of annual rainfall evenly-distributed over the growing season.
   e. There are two important wheat-growing zones in the country –
      i. the Ganga-Satluj plains in the northwest
      ii. black soil region of the Deccan.
   f. The major wheat-producing states are Punjab, Haryana, Uttar Pradesh, Bihar, Rajasthan and parts of Madhya Pradesh.

3. **Millets**
   a. Jowar, bajra and ragi are the important millets grown in India. These are known as coarse grains, they have very high nutritional value. Ragi is very rich in iron, calcium, other micro nutrients and roughage.
      i. **Jowar** is the third most important food crop with respect to area and production.
      ii. It is a rain-fed crop mostly grown in the moist areas which hardly needs irrigation.
iii. Maharashtra is the largest producer of jowar followed by Karnataka, Andhra Pradesh and Madhya Pradesh.
   i. **Bajra** grows well on sandy soils and shallow black soil.
   ii. Rajasthan is the largest producer of bajra followed by Uttar Pradesh, Maharashtra, Gujarat and Haryana.
   i. **Ragi** is a crop of dry regions and grows well on red, black, sandy, loamy and shallow black soils.
   ii. Karnataka is the largest producer of ragi followed by Tamil Nadu. Apart from these states, Himachal Pradesh, Uttarakhand, Sikkim, Jharkhand and Arunachal Pradesh are also important for the production of ragi.

4. **Maize:**
   a. It is a crop which is used both as food and fodder.
   b. It is a kharif crop
   c. It requires temperature between 21°C to 27°C
   d. It grows well in old alluvial soil.
   e. In some states like Bihar maize is grown in rabi season also.
   f. Use of modern inputs such as HYV seeds, fertilisers and irrigation have contributed to the increasing production of maize.
   g. Major maize-producing states are Karnataka, Uttar Pradesh, Bihar, Andhra Pradesh and Madhya Pradesh.

5. **Pulses:**
   a. India is the largest producer as well as the consumer of pulses in the world.
   b. These are the major source of protein in a vegetarian diet.
   c. Major pulses that are grown in India are tur (arhar), urad, moong, masur, peas and gram.
   d. Pulses need less moisture and survive even in dry conditions.
   e. Being leguminous crops, all these crops except arhar help in restoring soil fertility by fixing nitrogen from the air. Therefore, these are mostly grown in rotation with other crops.
   f. Major pulse producing states in India are Madhya Pradesh, Uttar Pradesh, Rajasthan, Maharashtra and Karnataka.

Food Crops other than Grains

6. **Sugarcane:**
   a. It is a tropical as well as a subtropical crop.
   b. It grows well in hot and humid climate
   c. It require a temperature of 21°C to 27°C
   d. and an annual rainfall between 75cm. and 100cm.
   e. Irrigation is required in the regions of low rainfall.
   f. It can be grown on a variety of soils
   g. It needs manual labour from sowing to harvesting.
   h. India is the second largest producer of sugarcane only after Brazil.
   i. It is the main source of sugar, gur (jaggary), khandsari and molasses.
   j. The major sugarcane-producing states are Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Bihar, Punjab and Haryana.

7. **Oil Seeds:**
   a. India is the largest producer of oilseeds in the world.
b. Different oil seeds are grown covering approximately 12 per cent of the total cropped area of the country.

c. Main oil-seeds produced in India are groundnut, mustard, coconut, sesame (til), soyabean, castor seeds, cotton seeds, linseed and sunflower.

d. Most of these are edible and used as cooking mediums. However, some of these are also used as raw material in the production of soap, cosmetics and ointments.

a. **Groundnut**
   
i. It is a kharif crop and accounts for about half of the major oilseeds produced in the country.
   
ii. Andhra Pradesh is the largest producer of groundnut followed by Tamil Nadu, Karnataka, Gujarat and Maharashtra

b. **Linseed and mustard**
   
i. These are rabi crops.

c. **Sesamum** is a kharif crop in north and rabi crop in south India.

d. **Castor seed** is grown both as rabi and kharif crop.

8. **Tea**

a. Tea cultivation is an example of plantation agriculture.

b. It is also an important beverage crop introduced in India initially by the British.

c. The tea plant grows well in tropical and sub-tropical climates

d. It needs deep and fertile well-drained soil, rich in humus and organic matter.

e. Tea bushes require warm and moist frost-free climate all through the year.

f. Frequent showers evenly distributed over the year ensure continuous growth of tender leaves.

g. Tea is a labour-intensive industry. It requires abundant, cheap and skilled labour.

h. Tea is processed within the tea garden to restore its freshness.

i. Major tea-producing states are Assam, hills of Darjeeling and Jalpaiguri districts, West Bengal, Tamil Nadu and Kerala. Apart from these, Himachal Pradesh, Uttaranchal, Meghalaya, Andhra Pradesh and Tripura are also tea-producing states in the country.

j. India is the leading producer as well as exporter of tea in the world.

9. **Coffee**

a. India produces about four per cent of the world’s coffee production.

b. Indian coffee is known in the world for its good quality.

c. The Arabica variety initially brought from Yemen is produced in the country.

d. Initially its cultivation was introduced on the Baba Budan Hills and even today its cultivation is confined to the Nilgiri in Karnataka, Kerala and Tamil Nadu.

**Horticulture Crops**:

India is the largest producer of fruits and vegetables in the world. India is a producer of tropical as well as temperate fruits.

a. **Mangoes** of Maharashtra, Andhra Pradesh, Uttar Pradesh and West Bengal,

b. **Oranges** of Nagpur and Cherrapunjee (Meghalaya),

c. **Bananas** of Kerala, Mizoram, Maharashtra and Tamil Nadu,

d. **Litchi and guava** of Uttar Pradesh and Bihar,

e. **Pineapples** of Meghalaya,

f. **Grapes** of Andhra Pradesh and Maharashtra,
Non-Food Crops

10. Rubber:
   a. It is an equatorial crop, but under special conditions, it is also grown in tropical and sub-tropical areas.
   b. It requires moist and humid climate with rainfall of more than 200 cm.
   c. Temperature above 25°C.
   d. Rubber is an important industrial raw material.
   e. It is mainly grown in Kerala, Tamil Nadu, Karnataka and Andaman and Nicobar islands and Garo hills of Meghalaya.
   f. India ranks fifth among the world’s natural rubber producers.

Fibre Crops: Cotton, jute, hemp and natural silk are the four major fibre crops grown in India. The first three are derived from the crops grown in the soil, the latter is obtained from cocoons of the silkworms fed on green leaves specially mulberry. Rearing of silk worms for the production of silk fibre is known as sericulture.

11. Cotton:
   a. India is believed to be the original home of the cotton plant.
   b. Cotton is one of the main raw materials for cotton textile industry.
   c. India is the third-largest producer of cotton in the world.
   d. Cotton grows well in drier parts of the black cotton soil of the Deccan plateau.
   e. It requires high temperature, light rainfall or irrigation, 210 frost-free days and bright sunshine for its growth.
   f. It is a kharif crop and requires 6 to 8 months to mature.
   g. Major cotton-producing states are – Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Andhra Pradesh, Tamil Nadu, Punjab, Haryana and Uttar Pradesh.

12. Jute:
   a. It is known as the golden fibre.
   b. Jute grows well on well-drained fertile soils in the flood plains where soils are renewed every year.
   c. High temperature is required during the time of growth.
   d. West Bengal, Bihar, Assam, Orissa and Meghalaya are the major jute producing states.
   e. It is used in making gunny bags, mats, ropes, yarn, carpets and other artefacts.
   f. Due to its high cost, it is losing market to synthetic fibres and packing materials, particularly the nylon.

TECHNOLOGICAL AND INSTITUTIONAL REFORMS

Q.11 Describe the conditions which lead to technological and institutional reforms in India.
Ans.
   • Agriculture has been in practised in India for thousands of years.
   • Continued uses of land without well-matched techno-institutional reforms lead to slow down in the pace of agricultural development.
   • Inspite of development in irrigation most of the farmers in large parts of the country still depend upon monsoon and natural fertility of soil.
   • Our population grew at fast rate than agriculture production.
More than 60 per cent of India’s population depended on agriculture.

Q.12 Mention important technological and institutional reforms introduced in India after independence in 1960s and 1970s.
Ans. After independence following technological and institutional reforms were introduced but all these failed to strengthen our agriculture. These led to the concentration of development in few selected areas.
- Collective farming was introduced.
- Land holdings were consolidated
- Co-operative movement were started in Indian agriculture
- Zamindari system was abolished,
- ‘Land reform’ was introduced in First Five Year Plan.
- The Green Revolution and related technologies were introduced such as use of HYV of seed, fertilizers, modern machinery and inputs.
- White Revolution (Operation Flood) was introduced to increase milk production.

Q.13 Explain any four features of comprehensive land development programme initiated during 1980s and 1990s.
Ans. Comprehensive land development programme included both institutional and technical reforms. Following reforms were introduced: -
- Provision for crop insurance against drought, flood, cyclone, fire and disease,
- Establishment of Grameen banks, cooperative societies and banks for providing loan facilities to the farmers at lower rates of interest were some important steps in this direction.
- Kissan Credit Card (KCC) was introduced for easy availability of inputs.
- Personal Accident Insurance Scheme (PAIS) are some other schemes introduced by the Government of India for the benefit of the farmers.
- Special weather bulletins and agricultural programmes for farmers were introduced on the radio and television.
- The government also announces minimum support price, remunerative and procurement prices for important crops to check the exploitation of farmers by speculators and middlemen.

Q.14 What is Bhoodan – Gramdan movement and Blood less Revolution in the field of agriculture?
Ans. Vinobha Bhave introduced voluntary redistribution of farm-lands to poor landless farmers for their economic well-being. This act was known as ‘Bhoodan’.
Some zamindars, owners of many villages offered to distribute some villages among the landless. It was known as Gramdan.
This Bhoodan-Gramdan movement initiated by Vinobha Bhave is also known as the Blood-less Revolution.

CONTRIBUTION OF AGRICULTURE
Q.15
Describe the contribution of agriculture to the national economy.
Ans. Agriculture has been the backbone of the Indian economy.
- Its share in providing employment and livelihood to the population continues to be as high as 63 per cent in 2001.
- India is an agriculturally important country.
- Two-thirds of its population is engaged in agricultural activities.
- Agriculture is a primary activity, which produces most of the food that we consume.
- Besides food grains, it also produces raw material for various industries.
Moreover, some agricultural products like tea, coffee, spices, etc. are also exported. All other sectors of Indian economy heavily depend on agriculture for their growth.

**MODERNIZATION OF INDIAN AGRICULTURE**

Q.16 State any four efforts made by the Government of India to modernize our agriculture.

Ans. Considering the importance of agriculture in India, the Government of India made concerted efforts to modernise agriculture.

- Establishment of Indian Council of Agricultural Research (ICAR),
- Establishment of Agricultural universities,
- Establishment of Veterinary services and animal breeding centres,
- Initiating Horticulture development,
- Initiating Research and development in the field of meteorology and weather forecast,
- Improving the rural infrastructure.

**CHALLENGES FACING IN INDIAN AGRICULTURE**

Q.17 Explain the challenges facing in Indian agriculture. OR Why the GDP growth in agriculture sector has remained stagnant throughout decades. OR Why the employment in agriculture sector is declining? Give reasons.

Ans. Indian farmers are facing a big challenges.

- Our farmer can not face stiff international competition.
- Our government has reduced investment in agriculture sector particularly in irrigation, power, rural roads, market and mechanisation.
- Subsidy on fertilisers is decreased leading to increase in the cost of production.
- Import duty has been reduced on agricultural products which lead to large inflow of foreign agro products in the country.
- Farmers are withdrawing their investment from agriculture causing a downfall in the employment in agriculture.
- Many farmers are committing suicides in several states of the country.
- Land under agriculture is decreasing.
- There are no alternative source of livelihood for the farmers.