



Social Studies

(Geography)

Chapter 4: Agriculture



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Agriculture

India is predominantly an agricultural country. Agriculture is a primary activity as it produces not only the food which we directly consume but also the raw materials which are used in various industries.

Types of Farming

In India, various kinds of agricultural practices are followed.

Primitive Subsistence Farming

- This type of farming is also known as 'slash and burn agriculture'. Farmers first clear a patch of forest land by burning plants and trees. Food crops are then grown on this patch of land.
- Farming is carried out on small land holdings with primitive or age-old tools such as hoe and digging sticks.
- When the fertility of the soil decreases, another patch of land is cleared for cultivation.
- Because fertilisers and modern tools of cultivation are not used in this type of farming, the production is low. This type of farming is also known as shifting cultivation and is also known by different names in different parts of the country.



Intensive Subsistence Farming

- It is labour-intensive farming and is generally carried out in areas of high population.
- Because the land holdings are not large, farmers use fertilisers and irrigate the fields to increase the productivity of land.

Commercial Farming

- In this type of farming, the land holding is comparatively large. High-yielding variety seeds, pesticides and insecticides are used in order to increase production.



Banana plantation in Southern part of India



Bamboo plantation in North-east

- Plantation is also a type of commercial farming. In plantations, a single crop is grown on a large area. Huge capital is invested, and fertilisers and irrigation methods are used to increase the productivity of land. The produce of the plantations is used as a raw

material in various industries. Tea, coffee and rubber are some important plantation crops.

- The plantation fields are well connected with industries, transport and well-laid roads as plantation crops are mainly produced for the consumption by the markets.

In India, there are three main types of cropping seasons. They are rabi, kharif and zaid.

Types of Cropping Seasons	Sowing Period	Harvesting Period	Main Crops or Fruits	Seasonal Conditions
Rabi	Winter (October–December)	Summer (April–June)	Wheat, barley, peas, gram, mustard	Rainfall during the winter months in northern India because of western temperate cyclones helps in the growth of crops.
Kharif	Beginning of monsoon (July)	September–October	Rice, maize, jowar, groundnut, tur, cotton	Much needed moisture is provided by the monsoon rains in India.
Zaid	March–April	May–June	Watermelon, cucumber, vegetables, fodder crops	These crops are grown between the rabi and kharif seasons. They require warm weather to grow.

Major Crops

In India, many food and non-food crops are grown in different parts of the country.

Rice: It is a staple food crop of majority of the people of India. It is a kharif crop which is grown extensively in the northern plains, northeastern parts of the country and coastal and deltaic regions. Rice requires high temperature (above 25°C) and high rainfall (above 100 cm). India is the second largest producer of rice in the world after China.

Wheat: This is another important crop in India. It is the main food crop consumed by people living mainly in north and northwestern parts of the country. It is a rabi crop which requires cool climate. It requires about 50–75 cm of rainfall evenly distributed throughout the growing period. The Ganga Satluj plains in the northwest and the black soil region in the Deccan are the two main wheat-growing belts in the country. Punjab, Haryana, Uttar Pradesh, Bihar and Rajasthan are major wheat-producing states.

Millets: Jowar, bajra and ragi are some important millets which are grown in India. These have high nutritional value. Ragi is rich in calcium and iron. It is grown in the dry regions of Karnataka, Tamil Nadu, Uttar Pradesh, Uttarakhand and Sikkim. Jowar is the third most important food crop grown in India in regard to production. It is grown in the humid areas

of Andhra Pradesh, Karnataka and Madhya Pradesh. Bajra grows on sandy soils. Maharashtra, Uttar Pradesh and Rajasthan are major producers of bajra.



Rice



Wheat



Millets

Maize: It is a food and a fodder crop. It is a kharif crop (it grows in the rabi season in Bihar) and requires temperatures between 21°C and 27°C. It grows well in the old alluvial soil. Karnataka, Uttar Pradesh, Bihar, Andhra Pradesh and Madhya Pradesh are some important maize-growing states.

Pulses: Major pulses grown in India are tur, urad, moong, peas and gram. Pulses can be grown even in dry conditions. With the exception of tur, all pulses are leguminous crops which help in restoring nitrogen to the soil. Thus, they are grown in rotation with the other crops. India is the largest producer and consumer of pulses in the world. Madhya Pradesh, Uttar Pradesh, Rajasthan, Maharashtra and Karnataka are major producers of pulses in the country.

Sugarcane: It grows well in the tropical and sub-tropical regions. It requires temperatures between 21°C and 27°C and rainfall up to 100 cm annually. It is a labour-intensive crop. India is the second largest producer of sugarcane in the world after Brazil. Apart from sugar, *khandsari*, *gur* and molasses are some important products of sugarcane. Uttar Pradesh, Maharashtra, Karnataka and Andhra Pradesh are some important sugarcane-producing states.



Maize



Pulses



Sugarcane

Oil Seeds: Groundnuts, mustard, coconut, sesame, cotton seeds and sunflower seeds are some important oil seeds which are grown in India. Most of these seeds are used in cooking. Some seeds are also used as raw materials for the manufacturing of soaps, cosmetics and ointments. Gujarat and Andhra Pradesh are two major producers of groundnuts in India.



Tea: It is plantation labour-intensive crop. It grows well on well-drained fertile soil in tropical and sub-tropical regions. It requires warm and moist-free climate throughout the year. It requires rainfall spread throughout the year. Frost is extremely harmful to plants. In India, tea is grown in Assam, West Bengal, Tamil Nadu and Kerala.

Coffee: India is known for growing the Arabica brand of coffee. In India, coffee is grown in Karnataka, Kerala and Tamil Nadu.



Tea



Coffee

Horticulture

The cultivation of fruits, flowers and vegetables is known as horticulture. India is known for producing varieties of fruits such as mango, litchi, grape and guava. India produces about 13% of the world's vegetables.

- **Mangoes:** Many varieties of mangoes like Safeda, Dussehri, Langda, Sindoori, etc. are grown in Maharashtra, U.P., Andhra Pradesh and West Bengal.
- **Oranges:** Nagpur and Cherrapunjee are famous for orange varieties of India.
- **Bananas** of various qualities are grown in Kerala, Mizoram, Maharashtra and Tamil Nadu.
- **Lichi and Guava** are famous in parts of Uttar Pradesh, Uttarakhand and Bihar.
- **Pineapple** in Meghalaya and **Grapes** are grown in Andhra Pradesh and Maharashtra.
- **Apples, pears, apricots and walnuts** are mainly temperate fruits and are grown in J&K and Himachal Pradesh and are in great demand all over the world.
- **Vegetables:** India produces about 13 per cent of the world's vegetables. It is an important producer of peas, cauliflower, onion, cabbage, tomato, brinjal and potatoes. There is a potato institute in Shirnla where study is made on various qualities of potatoes grown in India.



Apricots, apple and pomegranate



Cultivation of vegetables – peas, cauliflower, tomato and brinjal

Non-Food Crops

Rubber: It requires moist and humid climate with temperatures above 25°C and more than 200 cm of rainfall. It is grown in Kerala, Karnataka, Tamil Nadu and the Andaman and Nicobar Islands.

Fibre Crops: Cotton, jute, hemp and natural silk are some fibre crops. **Cotton** grows well in the black cotton soil of the Deccan Plateau. It needs high temperature, light rainfall and about 210 frost-free days. Major cotton-producing states are Maharashtra, Gujarat, Madhya Pradesh, Karnataka, Tamil Nadu and Uttar Pradesh.



Known as the golden fibre, **jute** grows well in the fertile soils of the floodplains. It is used in making bags, ropes, mats and carpets. West Bengal, Bihar, Assam and Odisha are some major jute-producing states.

The rearing of silkworms for the production of silk is known as **sericulture**. Karnataka and West Bengal are two important silk-producing states.

Technological and Institutional Reforms

The Government of India introduced various reforms to improve productivity and the conditions of farmers. Some of these reforms were

- Five Year Plans were passed whereby importance was given to land reforms. Green Revolution and White Revolution were started to improve agriculture and milk production. However, it benefited only few farmers.
- To provide cheap loans to the farmers, many 'Grameen banks' or cooperative credit societies have been established in various villages.

- Farmers are provided insurance for crop protection, droughts, floods, fire and diseases. Apart from these, Kisan Credit cards and Personal Accident Insurance Scheme (PAIS) have also been initiated by the Government.



Modern technological equipments used in agriculture

Contribution of agriculture to the national economy, employment and output

However, it is to be noticed that despite these reforms, the share of agriculture in the country's GDP is declining. It is also not generating enough employment opportunities. Various subsidies provided to the farmers by the Government are on the decline. This has led to increased production costs. Reduction in import duties on agricultural crops has further deteriorated the conditions of the farmers. Farmers are increasingly growing fruits, vegetables and oil seeds. This has reduced the net sown area under the cultivation of cereals and pulses. Excessive irrigation and too much use of pesticides and insecticides have deteriorated the quality of soil resulting in low food production.

- In 2010-11 about 52% of the total workforce was employed by the farm sector.
- The share of agriculture in the GDP is declining.
- Indian Council of Agricultural Research (ICAR), agricultural universities, veterinary services and animal breeding centres, horticulture development, research and development in the field of meteorology and weather forecast, etc. are a few of the initiatives introduced by the government to improve Indian agriculture.

Food Security

India is a welfare state. To ensure the availability of food to all people, the Government of India has started a food security system. Food security consists of two components:

1. Buffer stock
2. Public distribution system (PDS)

The Food Corporation of India (FCI) has the responsibility of purchasing and storing of food grains. It purchases food grains from the farmers at the minimum support price (MSP) fixed by the Government. The distribution of food grains is managed by the PDS.

As MSP subsidies of paddy and wheat are comparatively higher, these crops are grown more. This has created an imbalance in the cropping patterns.

The Government has divided consumers into two categories—below poverty line (BPL) and above poverty line (APL). These two categories get food grains at prices fixed by the Government.

However, the declining crop cultivation in the country has raised questions about the food security programmed.

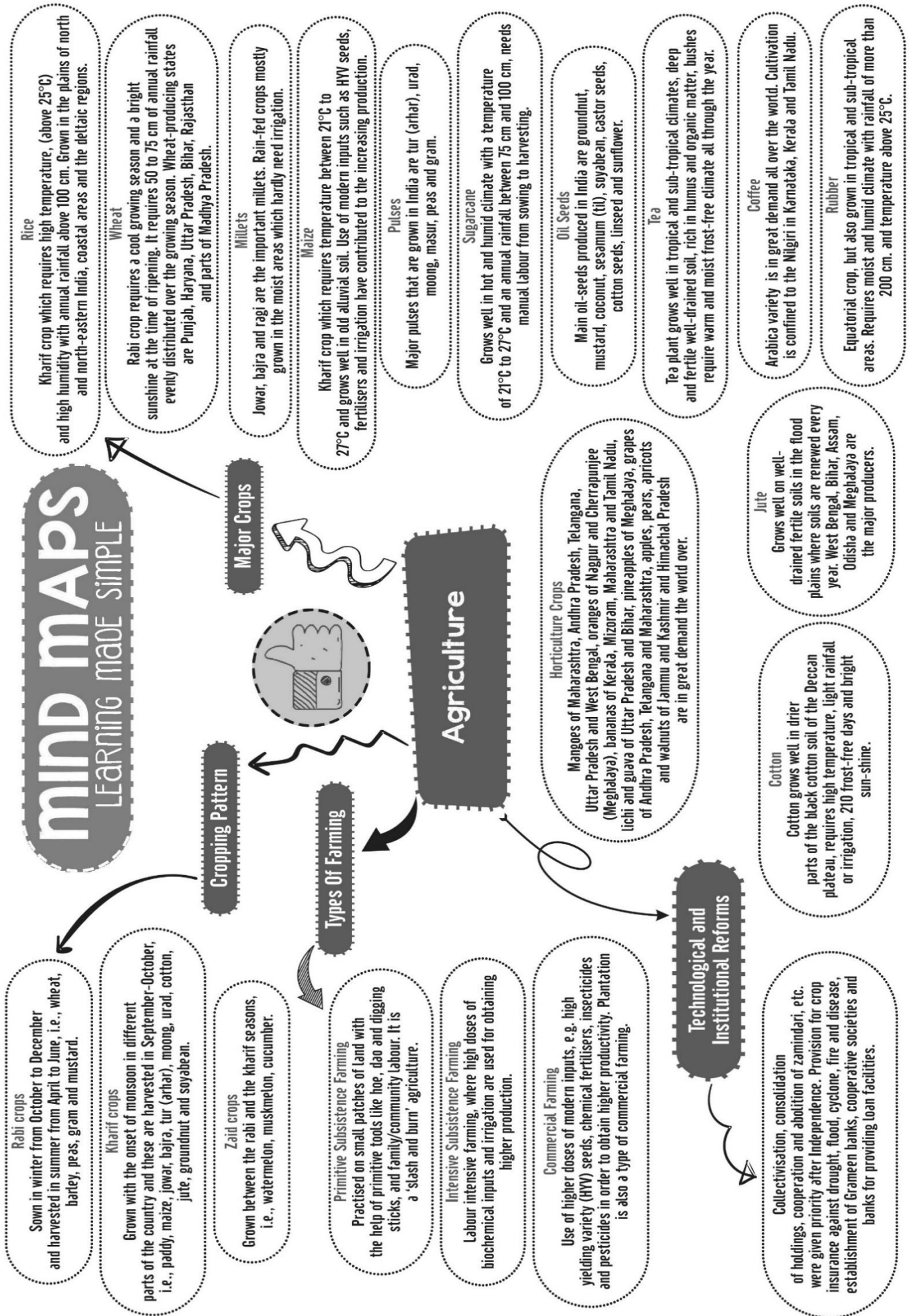
Impact of Globalization on Agriculture

- After 1990, under globalization, the farmers in India have faced new challenges in the international market.
- Despite being an important producer of rice, cotton, rubber, tea, coffee, jute and spices Indian agricultural products are not able to compete with the developed countries because of the highly subsidized agriculture in those countries.
- Genetic engineering is recognized as a powerful supplement in inventing new hybrid varieties of seeds that can increase production and make farming more profitable.
- In fact, organic farming is much in vogue today because it is practiced without factory-made chemicals such as fertilizers and pesticides and promotes organic farming.

AGRICULTURE

mind maps

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Important Questions

Multiple Choice questions-

Question 1. Three crops of paddy grown in a year in the states of Assam, West Bengal and Orissa are:

- (a) Aus, Aman and Boro
- (b) Aus, Aman and Poro
- (c) Bus, Bman and Boro
- (d) Aman, Poro, and Boro

Question 2. A short season during the summer months between the rabi and the kharif season is called the:

- (a) Jaid season
- (b) Zaid season
- (c) Short season
- (d) none of the above

Question 3. The major crops grown in India are:

- (a) Water-melon, musk-melon, cucumber etc.
- (b) Mango, jute, cotton, barley etc.
- (c) Rice, wheat, pulses, tea, coffee, sugarcane etc.
- (d) none of the above

Question 4. The annual rainfall needed for the cultivation of rice is :

- (a) 400 cm
- (b) 300 cm
- (c) 200 cm
- (d) 100 cm

Question 5. Bajra grows well on:

- (a) Alluvial and loamy soils
- (b) Alluvial and sandy soils
- (c) Sandy soils and shallow black soil
- (d) Alluvial and clayey soils

Question 6. India is the largest producer as well as the consumer of in the world.

- (a) Rice
- (6) Wheat
- (c) Pulses

(d) Sugarcane

Question 7. The state which is the largest producer of groundnut is:

(a) Tamil Nadu

(b) Karnataka

(c) Andhra Pradesh

(d) Gujarat

Question 8. The major tea producing states are:

(a) Assam, West Bengal, Tamil Nadu and Kerala

(b) Punjab, Haryana Jammu and Kashmir

(c) Maharashtra, Gujarat and Tamil Nadu

(d) Rajasthan, Andhra Pradesh and Gujarat

Question 9. India produces about percent of the world's coffee production:

(a) Five

(b) Four

(c) Three

(d) Two

Question 10. India produces about percent of the world's vegetables:

(a) 13

(b) 14

(c) 15

(d) 16

Question 11. The rainfall and temperature required for the cultivation of rubber is:

(a) 100 cm-25°C

(b) 150cm-30°C

(c) 200 cm-25°C

(d) 300cm-40°C

Question 12. Rearing of silk worms for the production of silk fibre is known as:

(a) Pisciculture

(b) Monoculture

(c) Silk culture

(d) Sericulture

Question 13. Cotton is a kharif crop and requires to

..... months to nature:

- (a) 5-6
- (b) 7-8
- (c) 6-8
- (d) 4-6

Question 14. Jute is also known as:

- (a) White fibre
- (b) Silver fibre
- (c) Golden fibre
- (d) Diamond fibre

Question 15. Genetic engineering is recognized as a powerful supplement in inventing new:

- (a) Agricultural tools
- (b) Modern machines
- (c) Hybrid variety of plants
- (d) Hybrid variety of seeds

Very Short-

1. What is Zaid season?
2. Name the season during which watermelon, muskmelon and cucumber are produced?
3. What are Aus, Aman and Boro?
4. Name two important wheat growing zones of India?
5. Name the rain fed millet crop mostly grown in the moist areas which hardly needs irrigation?
6. Which crop is used both as food and fodder?
7. Who offered 80 acres of land to landless villagers?
8. Which is the kharif crop account for about half of the major oilseeds produced in the country?
9. How many crops of paddy are grown in a year in the states like Assam, West Bengal and Orissa and they are termed as by which names?
10. Name the crops which are known as coarse grains.

Short Questions-

1. Define agriculture? Why has cultivation methods changed significantly over years?

2. What is plantation farming? What are its main characteristics?
3. What are millets? Why are millets very important food crop in India?
4. Why are some pulses known as leguminous crop? Why are they grown in rotation with other crops?
5. Distinguish between Gramdan and Bhoodan.
6. Which type of agriculture is known as slash and burn agriculture? What is the main disadvantage of this type farming?
7. Explain the factor upon which the different farming practices depends.
8. Why there enormous pressure on agricultural land in land intensive subsistence farming?
9. The land under cultivation is being reduced day by day. Can you imagine its consequences?
10. Why is agriculture important for Indian economy?

Long Questions-

1. Explain the favourable temperature, rainfall and soil conditions required for the growth of tea. Name the leading tea producing states.
2. Explain the favourable temperature, rainfall and soil conditions required for the growth of coffee. Name the leading tea producing states.
3. Name the major Horticulture Crops of India and also write their areas of cultivation.
4. Which is the staple crop for majority of the people in India? What are the Geographical conditions required for its growth. Name the major areas of its production.
5. Which is the second most important cereal crop? What are the Geographical conditions required for its growth. Name the major areas of its production.
6. Name the crop which is used both as food and fodder? What are the Geographical conditions required for its growth. Name the major areas of its production?
7. Name the crop which is main source of Sugar and Gur? What are the Geographical conditions required for its growth. Name the major areas of its production.
8. Which crop is known as golden fiber? What are the Geographical conditions required for its growth. Name the major areas of its production.

Assertion Reason Questions:

1. **DIRECTION:** Mark the option which is most suitable:
 - a. If both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

- b. If both assertion (A) and reason (R) are true, but reason (R) is not the correct explanation of assertion (A).
- c. Assertion (A) is true, but reason (R) is false.
- d. Both assertion (A) and reason (R) are false.

ASSERTION (A): In the 1980s and 1990s a comprehensive land development programme was initiated which included both institutional and technological reforms.

REASON (R): Green revolution was based on the use of package Technology.

2. **DIRECTION:** Mark the option which is most suitable:

- a. If both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
- b. If both assertion (A) and reason (R) are true, but reason (R) is not the correct explanation of assertion (A).
- c. Assertion (A) is true, but reason (R) is false.
- d. Both assertion (A) and reason (R) are false.

ASSERTION (A): Cotton cannot be grown in Assam.

REASON (R): The crop needs bright sunshine and 210 frost free days for its growth.

Case Study Questions:

1. Read the text given below and answer the questions that follow:

Globalisation is not a new phenomenon. It was there at the time of colonisation. In the nineteenth century when European traders came to India, at that time too, Indian spices were exported to different countries of the world and farmers of south India were encouraged to grow these crops. Till today, it is one of the important items of export from India. During the British period cotton belts of India attracted the British and ultimately cotton was exported to Britain as a raw material for their textile industries. Under globalisation, particularly after 1990, the farmers in India have been exposed to new challenges. Despite being an important producer of rice, cotton, rubber, tea, coffee, jute and spices, our agricultural products are not able to compete with the developed countries because of the highly subsidised agriculture in those countries. Today, Indian agriculture finds itself at the crossroads. To make agriculture successful and profitable, proper thrust should be given to the improvement of the condition of marginal and small farmers. The green revolution promised much. But today it's under controversies. It is being alleged that it has caused land degradation due to overuse of chemicals, drying aquifers and vanishing biodiversity. The keyword today is "gene revolution", which includes genetic engineering. In fact, organic farming is much in vogue today because it is practised without factory made

chemicals such as fertilisers and pesticides. Hence, it does not affect environment in a negative manner.

- i. The given extract throws light on _____.
 - a. Globalisation and the colonisation in agriculture
 - b. Impact of globalisation on agriculture.
 - c. New Economic policy pertaining to agriculture.
 - d. None of these.
- ii. Which of the following has been a direct disadvantage of globalisation to the farmer?
 - a. Increase in global competition with the developed countries.
 - b. Degradation of land due to the overuse of chemicals.
 - c. Increased expenditure on buying HYV seeds.
 - d. All the above.
- iii. The method of farming done without using any type of chemical fertiliser, urea, insecticides is known as _____.
 - a. Mixed farming.
 - b. Organic farming.
 - c. Sustainable farming.
 - d. Inorganic farming.
- iv. The key word today is “gene revolution” which includes genetic engineering. Which of the following is recognized as genetic engineering?
 - a. Powerful supplement in inventing insecticides and pesticides.
 - b. Powerful supplement in inventing biological inputs and fertilisers.
 - c. Powerful supplement in inventing new hybrid varieties of seeds.
 - d. Powerful supplement in inventing organic and inorganic farming.

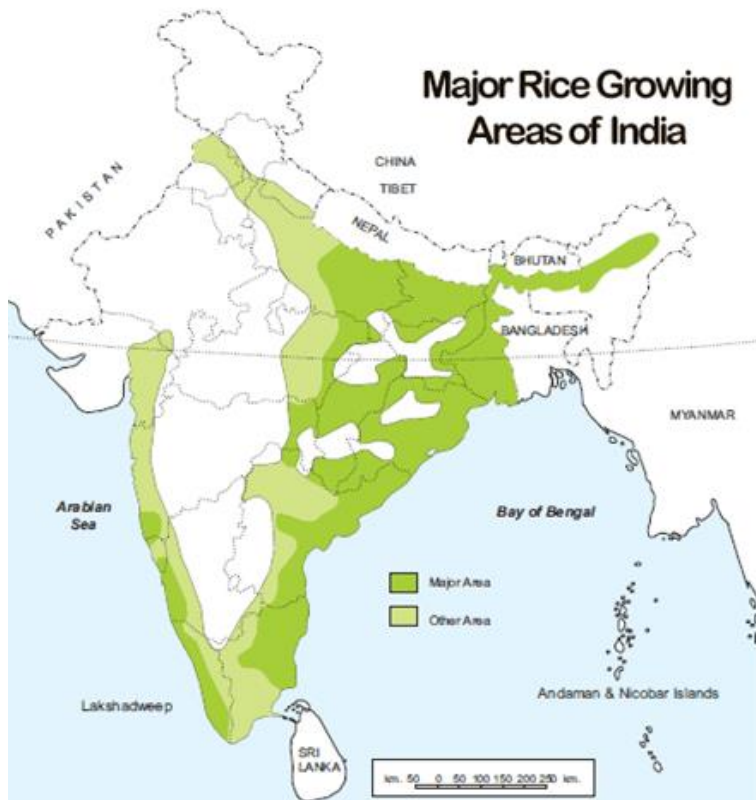
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the developed countries because of the highly subsidised agriculture in those countries. Today, Indian agriculture finds itself at the crossroads. To make agriculture successful and profitable, proper thrust should be given to the improvement of the condition of marginal and small farmers. The green revolution promised much. But today it's under controversies. It is being alleged that it has caused land degradation due to overuse of chemicals, drying aquifers and vanishing biodiversity. The keyword today is "gene revolution", which includes genetic engineering. In fact, organic farming is much in vogue today because it is practised without factory made chemicals such as fertilisers and pesticides. Hence, it does not affect environment in a negative manner.

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 - d. Powerful supplement in inventing organic and inorganic farming.

Map Question:



1. As per the map given, which among the following is a minor area of rice production?
 - a. Bihar.
 - b. Haryana.
 - c. West Bengal.
 - d. Assam.

MCQ Answers-

1. Answer: (a) Aus, Aman and Boro
2. Answer: (b) Zaid season
3. Answer: (c) Rice, wheat, pulses, tea, coffee, sugarcane etc.
4. Answer: (d) 100 cm
5. Answer: (c) Sandy soils and shallow black soil
6. Answer: (c) Pulses
7. Answer: (c) Andhra Pradesh
8. Answer: (a) Assam, West Bengal, Tamil Nadu and Kerala
9. Answer: (b) Four
10. Answer: (a) 13
11. Answer: (c) 200 cm – 25°C
12. Answer: (d) Sericulture

13. Answer: (c) 6-8

14. Answer: (c) Golden fibre

15. Answer: (d) Hybrid variety of seeds

Very Short Answers-

1. Ans. In between the rabi and kharif seasons, there is a short season during the summer months known as the zaid season.
2. Ans. Zaid season
3. Ans. . In states like Assam, West Bengal and Orissa three crops of paddy are grown in a year. These are locally known as Aus, Aman and Boro.
4. Ans. The Ganga-Sutlej plains in the north and black soil region in the Deccan.
5. Ans. Jowar.
6. Ans. Maize
7. Ans. Shri Ram Chandra Reddy
8. Ans. Groundnut
9. Ans. Three- Aus, Aman and Boro
10. Ans. Jowar, bajra and Ragi are the important millets grown in India. These are known as coarse grains.

Very Short Answers-

1. Ans. A. Agriculture is the process of producing food, feed, fiber and other goods by the systematic raising of plants and animals.

B. Agriculture is an age old economic activity in our country. Over these years cultivation methods have changed significantly depending upon the characteristics of physical environment, technological know how and socio-cultural practices.

C. Farming varies from subsistence to commercial type.

D. At present in different parts of India- primitive subsistence farming, Intensive Subsistence Farming and commercial Farming are practiced.

2. Ans. Plantation is a type of commercial farming. In This kind of farming a single crop is grown on a large area. This kind of farming is a legacy of colonialism, adapted to local conditions. Following are its characteristics:

A. Plantation has an interface of agriculture and industry.

B. Cultivation of cash for export purpose.

C. All the produce is used as raw material in respective industries.

D. Tea, coffee, rubber, sugarcane, banana etc are important plantation crops.

3. Ans. A. Jowar, Bajra and Ragi are the important millets grown in India.

- B. These are known as coarse grains.
- C. These are used as food crops as well as fodder crops also.
- D. These have very high nutritional value.

4. Ans. A. Maximum pulses are known as leguminous crops.

- B. It helps in fixation of nitrogen.
- C. Pulses are grown in rotation with other crops as they help in restoring soil fertility by using nitrogen from the air.

5. Ans. A. Bhoodan: Shri Ram Chandra Reddy offered 80 acres of land to 80 landless villagers. This act was known as Bhoodan.

- B. Later he travelled and introduced his ideas widely all over India.
- C. Some Zamidars, owners of many villages offered to distribute some villages among landless. It was known as Gramdaan.

6. Ans. A. Shifting agriculture is known as slash and burn agriculture.

- B. Such type of agriculture is harmful for environment.
- C. Due to burning of plants and bushes, it causes pollution.
- D. Du

7. Ans. The types of farming practiced depend on following two factors:

- A. Physical factors: It includes relief, climate and location.
- B. Human Factors: Human factors include the cultural background of people, availability of irrigation and agricultural practices.

8. Ans. A. The right of inheritance leading to division of land among successive generations has rendered land holding size uneconomical.

- B. The farmers continue to take maximum output from the limited land in the absence of alternative source of livelihood.
- C. Thus there is enormous pressure on agricultural land

9. Ans. A. Less land under cultivation would cause the lack of food grains for people.

- B. Due to less production of food crops the prices of food crops will raise to its maximum extent.
- C. It will also lead to more use of fertilizer and pesticides to get more and more production.
- D. Use of fertilizers and pesticides leads to health problems.

10. Ans. A. Two third population of India engaged in agricultural activities.

- B. Agriculture is a primitive activity, which produces most of the food that we consume.
- C. It also produces raw material for carious industries like cotton, sugar and jute

industry

D. It also helps in collecting foreign exchange.

Long Answers-

1. Ans.

1. Introduction: Tea is the main beverage crop. India is the leading producer and exporter of tea in the world.
2. Climate: Tea plants grow well in tropical and subtropical climate. Tea thrives well in a hot and humid climate.
3. Soil Type: The soil requirement is deep fertile well drained soil which is rich in humus and organic matter.
4. Temperature: Ideal temperature for the growth is 200 to 300 C.
5. Rainfall: 150 to 300 cm annual rainfall is required. High humidity and frequent showers evenly distributed throughout the year are good for rapid development of tender leaves.

2. Ans.

1. Introduction: It is second most important beverage crop of India. Indian coffee is known for its quality and is hence in great demand all over the world. The variety produced in India is Arabica variety which was initially brought from Yemen.
2. Climate: It requires hot and humid climatic conditions for growth.
3. Soil Type: The soil requirement is deep fertile well drained soil which is rich in humus and organic matter.
4. Temperature: 150C and 280 C.
5. Rainfall: rainfall 50 to 200 cm annually.
- 6.Areas of Cultivation: Its cultivation was initiated on Baba Buden hills and is today confined to the Nilgiri in Karnataka Kerala and Tamil Nadu.

3. Ans.

1. Mangoes: Maharashtra, Andhra Pradesh, Uttar Pradesh and West Bengal.
2. Oranges: Nagpur and Cherapunji (Meghalaya)
3. Bananas: Kerala, Mizoram, Maharashtra, Tamil Nadu.
4. Litchi and Guava: Uttar Pradesh and Bihar.
5. Pineapple: Meghalaya
6. Grapes: Andhra Pradesh and Maharashtra.
7. Apples, Pears, Apricots and Walnuts: Jammu and Kashmir, and Himachal Pradesh.
8. Cashew nut: Kerala, Tamil Nadu and Andhra Pradesh.

4. Ans.

1. Introduction: Rice is the staple food crop of majority of the population.
2. Climate: Paddy is a tropical crop and grows well in the wet monsoon.
3. Temperature: Above 25°C, coupled with heavy humidity.
4. Rainfall: It requires an annual rainfall above 100 cm. It requires heavy rainfall in summer and irrigation in areas of less rainfall.
5. Areas of Cultivation: Rice is grown in the plains of north and north-eastern India, coastal areas and the deltaic region. Development of dense network of canal irrigation and tube wells have made it possible to grow rice in areas of less rainfall such as Punjab, Haryana and Western Uttar Pradesh and parts of Rajasthan.

5. Ans.

1. Introduction: Wheat is the second most important cereal crop. It is Rabi Crop. It is the main food crop, in north and north-western parts of the country.
2. Soil Type: Alluvial soil and black soil
3. Temperature: Cool growing season and bright sunshine at the time of ripening.
4. Rainfall: 50 to 75 cm of annual rainfall evenly distributed over the growing season.
5. Areas of Cultivation: There are two prominent wheat growing zones in the country-the Ganga-Sutlej plain in the north-west and black soil region of Deccan. Wheat producing states are Punjab, Haryana, Uttar Pradesh, Bihar, Rajasthan and certain parts of Madhya Pradesh.

6. Ans.

1. Introduction: Maize is a crop which is used both as food and fodder. It is Kharif crop.
2. Climate: 140 frost free days
3. Soil Type: It grows well in old alluvial soil.
4. Temperature: It requires temperature between 21°C to 27°C.
5. Rainfall: annual rainfall between 60 to 120 cm
6. Areas of Cultivation: In some states like Bihar maize is grown in Rabi season also. Use of modern inputs such as HYV seeds, fertilizers and irrigation have contributed to the increasing production of maize. Major maize producing states are Karnataka, Uttar Pradesh, Bihar.

7. Ans.

- A. Introduction: Sugar cane is the main source of sugar and gur. India is the second largest producer of sugarcane in the world after Brazil. It is tropical and sub tropical crop.

- B. Climate: It grows well in hot and humid climate.
- C. Soil Type: it can be grown well on a variety of soils.
- D. Temperature: Temperature requirement is 21°C to 27°C .
- E. Rainfall: Annual rainfall between 75 cm and 100 cm.
- F. Areas of Cultivation: The major sugarcane producing states are Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, Bihar, Punjab and Haryana.

8. Ans.

- 1. Introduction: Jute is known as the golden fiber. It is used to make mats, ropes, carpets, yarns, gunny bags and many other ornamental things.
- 2. Soil Type: Well drained fertile soil in the flood plains. The soil which renewed every year.
- 3. Temperature: High temperature at the time of growth.
- 4. Areas of Cultivation: West Bengal, Bihar, Assam, Orissa and Meghalaya are the major Jute producing states.

Assertion Reason Answer:

- 1. (b) If both assertion (A) and reason (R) are true, but reason (R) is not the correct explanation of assertion (A).
- 2. (a) If both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).

Case Study Answer:

- 1.
 - i. (b) Impact of globalisation on agriculture.
 - ii. (d) All the above.
 - iii. (b) Organic farming.
 - iv. (c) Powerful supplement in inventing new hybrid varieties of seeds.
- 2.
 - i. (b) Technological, institutional.
 - ii. (b) White revolution.
 - iii. (c) Increase in the agricultural production.
 - iv. (d) Maximum support price.

Map Answer:

- 1. (b) Haryana.