

Class 12 Geography NCERT Solutions Chapter 3 Land Resources and Agriculture

Class 12 Geography Chapter 3 NCERT Textbook Questions Solved

1. Choose the right answers of the followings from the given options:

Question 1.(i)

Which one of the following is NOT a land-use category?

- (a) Fallow land
- (b) Marginal land
- (c) Net Area Sown
- (d) Culturable Wasteland

Answer:

- (b) Marginal land

Question 1.(ii)

What one of the following is the main reason due to which share of forest has shown an increase in the last forty years?

- (a) Extensive and efficient efforts of afforestation
- (b) Increase in community forest land
- (c) Increase in notified area allocated for forest growth
- (d) Better peoples' participation in managing forest area.

Answer:

- (c) Increase in notified area allocated for forest growth

Question 1.(iii)

Which one of the following is the main form of degradation in irrigated areas?

- (a) Gully erosion
- (b) Wind erosion
- (c) Salinisation of soils
- (d) Siltation of land

Answer:

- (c) Salinisation of soils

Question 1.(iv)

Which one of the following crops is not cultivated under dryland farming?

- (a) Ragi
- (b) Jowar
- (c) Groundnut
- (d) Sugarcane

Answer:

- (d) Sugarcane

Question 1.(v)

In which of the following group of countries of the world, HYVs of wheat and rice were developed?

- (a) Japan and Australia
- (b) U.S.A. and Japan
- (c) Mexico and Philippines
- (d) Mexico and Singapore

Answer:

- (c) Mexico and Philippines

2. Answer the following questions in about 30 words:

Question 2.(i)

Differentiate between barren and wasteland and culturable wasteland.

Answer:

Barren and Wasteland	Culturable Wasteland
(a) Barren and wasteland refers to that land which cannot be brought under cultivation practises even with the use of present technology.	(a) Culturable wasteland is the land, which is left fallow for more than 5 years
(b) It is the land which is depleted due to land degradation or other natural factors. Eg. Ravines of Chambal.	(b) It can be brought under cultivation with present reclamation technologies.

Question 2.(ii)

How would you distinguish between net sown area and gross cropped area?

Answer:

Net Sown Area	Gross Cropped Area
(a) The physical extent of land in which crops are sown and harvested in a year is known as the net sown area. This is the area actually cultivated.	(a) The total area cultivated once, twice, or multiple times in a year is the gross cropped area
(b) Does not take into account multiple cropping.	(b) Multiple cropping is taken into account.

Question 2.(iii)

What is the difference between dryland and wetland farming?

Answer:

Dryland Farming	Wetland Farming
(a) In India it is confined to areas with rainfall of less than 75 cm in a year. Rainfall is less than the total moisture requirement of the soil.	(a) Rainfall is more than the total moisture requirement of the soil during rainy season.

(b) These areas face problems of drought	(b) Problems of flash flood and soil erosion are faced.
(c) Methods of water conservation are used also water harvesting is carried out.	(c) Aquaculture is practiced in these areas due to excess of water.
(d) Hardy and drought resistant crops like Jowar, Bajra, Gram are grown.	(d) Water intensive crops like rice, sugarcane and jute are grown.
(e) Practised in areas like Northern Madhya Pradesh and Rajasthan.	(e) Practised in rainier parts of Bihar and West Bengal.

Question 2.(iv)

Why is the strategy of increasing cropping intensity important in a country like India?

Answer:

The strategy of increasing crop intensity aims at increasing the productivity of a piece of land by increasing the number of times it is cultivated in a year. It aims at increasing the productivity of agriculture by increasing the productivity of already cultivated area. It is important for country like India where there is dearth of land so it is difficult to bring new pieces of land under cultivation to meet the ever-increasing demand of rising population.

Question 2.(v)

How do you measure total cultivable land?

Answer:

Total cultivable land is the entire land which can be cultivated either in the current state or after reclaiming it through the available technologies. It is a sum of total culturable wasteland, Fallow other than current fallow, current fallow and net sown area.

3. Answer the following questions in about 150 words:

Question 3.(i)

What are the different types of environmental problems of land resources in India?

Answer:

Land resources in India are faced with multiple issues that lead to decline in their productivity. The causes are both environmental and related to malpractices. The main environmental issues confronting Indian resources are:

Dependence on Erratic Monsoon: Irrigation covers only about 33 per cent of the cultivated area in India. The crop production in rest of the cultivated land directly depends on rainfall. Poor monsoon adversely affects the supply of canal water for irrigation. Rainfall in drought prone areas is too meager and highly unreliable. Even the areas receiving high annual rainfall experience considerable fluctuations. This makes them vulnerable to both droughts and floods. Droughts and floods continue to be twin menace in India.

Low productivity: The yield of the crops in the country is low in comparison to the international level. Indian agriculture is also very low in comparison to international level. The vast rainfed areas of the country, particularly drylands, which mostly grow coarse cereals, pulses and oilseeds, have very low yields.

Degradation of Cultivable Land: One of the serious problems that arises out of faulty strategy of irrigation and agricultural development is degradation of land resources. It leads to depletion of soil fertility. In irrigated areas a large tract of agricultural land lost its fertility due to alkalinisation and salinisation of soils and waterlogging. Excessive use of chemicals such as insecticides and pesticides has led to their concentration in toxic amounts in the soil profile. Leguminous crops have been displaced from the cropping pattern in the irrigated areas and duration of fallow has substantially reduced owing to multiple cropping. This has obliterated the process of natural fertilization such as nitrogen fixation. Rainfed areas also experience degradation of several types like soil erosion by water and wind erosion which are often induced by human activities.

Question 3.(ii)

What are the important strategies for agricultural development followed in the post-independence period in India?

Answer:

Indian agricultural economy was largely subsistence in nature before Independence. During partition about one-third of the irrigated land in undivided India went to Pakistan. After Independence, the immediate goal of the Government was to increase foodgrains production by

- switching over from cash crops to food crops;
- intensification of cropping over already cultivated land; and
- increasing cultivated area by bringing cultivable and fallow land under plough.

Later, Intensive Agricultural District Programme (IADP) and Intensive Agricultural Area Programme (IAAP) were launched. But two consecutive droughts during mid-1960s resulted in food crisis in the country.

New seed varieties of wheat (Mexico) and rice (Philippines) known as high yielding varieties (HYVs) were available for cultivation by mid-1960s. India took advantage of this and introduced package technology comprising HYVs, along with chemical fertilizers in irrigated areas of Punjab, Haryana, Western Uttar Pradesh, Andhra Pradesh and Gujarat leading fast agricultural growth. This spurt of agricultural growth came to be known as 'Green Revolution'. This also gave fillip to the development of a large number of agro-inputs, agro-processing industries and small-scale industries. This strategy of agricultural development made the country self-reliant in food grain production.

The Planning Commission of India focused its attention on the problems of agriculture in rainfed areas in 1980s. It initiated agro-climatic planning in 1988 to induce regionally balanced agricultural development in the country. It also emphasized 'the need for diversification of agriculture and harnessing of resources for development of dairy farming, poultry, horticulture, live- tock rearing and aquaculture.

Class 12 Geography Chapter 3 NCERT Extra Questions

Class 12 Geography Chapter 3 Very Short Answer Type Questions

Question 1.

Define land-use.

Answer:

The different uses to which land is put to use. Different types of land are used for different purposes. Human beings thus, use land as a resource for production as well as residence and recreation.

Question 2.

What factors influence land-use to a large extent?

Answer:

Land-use in a region, to a large extent, is influenced by the nature of economic activities carried out in that region.

Question 3.

Define Common Property Resources (CPR).

Answer:

CPR's can be defined as community's natural resource, where every member has the right of access and usage with some obligations, without anybody having the rights to property over them.

Question 4.

How is cropping intensity calculated?

Answer:

Cropping intensity is the number of times of a crop is planted per year in a given agricultural area. It is the ratio of effective crop area harvested to the physical area.

Question 5.

Which is the 2nd most important cereal crop in India?

Answer:

Wheat is the 2nd most important cereal crop in India.

Question 6.

Where is bajra grown in India?

Answer:

Bajra is grown in Maharashtra, Gujarat, UP, Rajasthan and Haryana.

Question 7.

What are the main fibre crops of India? How are they used?

Answer:

Cotton and jute are fibre crops of India. They provide fibre for making cloth, bags, sacks and other items of daily necessities and fashion.

Question 8.

What is India's rank in sugarcane production of the world?

Answer:.

India ranks second after Brazil in sugarcane production of world as per 2011.

Question 9.

Name the beverage crops of India.

Answer:

Tea and coffee are two main beverage crops of India.

Question 10.

Cotton is grown in which season? Name another crop of this season.

Answer:

Cotton is tropical crop grown in kharif season in semi arid areas of the country. Rice is another kharif crop.

Question 11.

Name the coarse cereals.

Answer:

Jowar, Bajra, maize and ragi are course cereals.

Question 12.

What is India's rank in cotton production?

Answer:

India ranks 4th in cotton production after China, USA and Pakistan.

Question 13.

What percentage of cropped area in India is under rice & wheat cultivation?

Answer:

25% of the total cropped area is under rice, and 14% of the total cropped area is under wheat cultivation in India.

Question 14.

What is India's rank in rice production in the world?

Answer:

India ranks second in rice production in the world after China.

Question 15.

What are the functions of Land Revenue Department?

Answer:

Land-use records are maintained by Land Revenue Department. The land- use categories add up to reporting area, which is somewhat different from the geographical area.

Question 16.

What are the functions of the Survey of India?

Answer:

The Survey of India is responsible for measuring geographical area of administrative units in India.

Question 17.

Explain two reasons for the increase pressure on agricultural land in developing country like India.

Answer:

Two reasons for the increase pressure on agricultural land in developing country are: In developing countries, share of population development on agriculture declines more slowly compared to decline in sector's share in GDP. The number of people that agricultural sector has to feed is increasing day by day.

Question 18.

Why is it important for India to develop land saving technology?

Answer:

In India land area is extremely less in comparison to its population. Therefore, India needs to develop land saving technology.

Question 19.

Why are various crop seasons not found in south India?

Answer:

Since weather does not change much in south India therefore the climate is suitable for the same types of crops throughout the year. Therefore, there are not various crop seasons in south India.

Question 20.

Explain why does the southern parts of India grow the same crops thrice a year?

Answer:

In southern India the temperature remains high throughout the year. It is suitable for growing tropical crops throughout the year. Thus, in this region the tropical varieties of crop are grown thrice in a year.

Question 21.

What are fibre crops?

Answer:

The crops which provide us fiber for preparing cloth, bags, sacks and a number of other items. Cotton and jute are two main fiber crops grown in India.

Question 22.

What are beverage crops?

Answer:

Those crops which are used as beverage after processing are called beverage crops. Example; Tea and coffee.

Question 23.

Name the programmes initiated in the end of 1960 for development of agriculture.

Answer:

Green revolution or package technology was initiated in the end of 1960s for development of agriculture.

Question 24.

What do you mean by low productivity?

Answer:

Low productivity means output per unit of labour employed or per unit of land use is low.

Question 25.

Name the two HYV seeds imported in 1960.

Answer:

New seed varieties of wheat (Mexico) and rice (Philippines) were imported in 1960.

Question 26.

What do you mean by small and fragmented landholdings?

Answer:

Landholdings of less than 1 hectare are called small landholdings. When these are scattered at different places, it is called fragmented landholdings.

Question 27.

What do you mean by under-employment?

Answer:

When a person is working below his potential, he is said to be under-employed and this situation is called under-employment.

Question 28.

What is barren and wasteland?

Answer:

The land which may be classified as a wasteland such as barren hilly terrains, desert lands, ravines, etc. normally cannot be brought under cultivation with the available technology. ,

Question 29.

Define fallow land?

Answer:

This is the land which is left without cultivation for one or less than one agricultural year. Fallowing is a cultural practise adopted for giving the land rest. The land recoups the lost fertility through natural processes.

Question 30.

What is fallow other than current fallow?

Answer:

This is also a cultivable land which is left uncultivated for more than a year but less than five years. If the land is left uncultivated for more than five years, it would be categorized as culturable wasteland.

Class 12 Geography Chapter 3 Short Answer Type Questions

Question 1.

Which four categories witnessed a decline in land use? Why?

Answer:

The four categories that have registered a decline are barren and wasteland, culturable wasteland, area under pastures and tree crops and fallow lands. The following explanations can be given for the declining trends:

- As the pressure on land increased, both from the agricultural and non agricultural sectors, the wastelands and culturable wastelands have witnessed decline over time.
- The decline in land under pastures and grazing lands can be explained by pressure from agricultural land. Illegal encroachment due to expansion of cultivation on common pasture lands is largely responsible for this decline.

Question 2.

What are the varieties of rice in India?

Answer:

Rice is a tropical crop and has about 3,000 varieties that are grown in different agro-climatic regions from sea level to about 2,000 m altitude and from humid areas in eastern India to dry but irrigated areas of the west. In southern states and West Bengal two to three crops of rice in an agricultural year. In West Bengal farmers grow three crops of rice called 'aus', 'aman' and 'boro'. In Himalayas and northwestern parts of the country, it is grown as a kharif crop during southwest Monsoon season.

Question 3.

What is the importance of pulses in India?

Answer:

Pulses are a very important as part of vegetarian food as a source of protein. Since these are legume crops they help in restoring the natural fertility of soils through the nitrogen fixing bacteria rhizobium in their roots. Since they do not much care, they can be grown in drier parts of the country, where the fine cereals cannot be grown.

Question 4.

What problems are faced by the fibre crops in India?

Answer:

India lost a big cotton growing area to Pakistan during partition and jute growing area to East Pakistan that is Bangladesh. Also these fibres are facing stiff competition from synthetic fibre as they are cheap, durable and easy to work with.

Question 5.

Write a note on tea cultivation in India.

Answer:

Tea is a plantation crop used as beverage. Black tea leaves are fermented whereas green tea leaves are unfermented. In India, tea plantation started in 1840's in Brahmaputra valley of Assam which still is a major tea growing area in the country. Later, it was introduced in the sub-Himalayan region of West Bengal. It is also grown in Nilgiri and Cardamom hills. India accounts for about 28 per cent of total production in the world. Presently, it ranks third among tea exporting countries in the world after Sri Lanka and China. Assam accounts for about 53.2 per cent of the total cropped area and contributes more than half of total production of tea in the country. West Bengal and Tamil Nadu are the other leading producers of tea.

Question 6.

What is the importance of coarse cereals in India?

Answer:

Coarse cereals like Jowar, Bajra, ragi and maize occupy about 17% of the total cropped area. These crops are sometimes grown as part of mixed cropping and are grown almost all over dry and semi arid parts of India since they do not require much care, fertilizer, etc. So, the areas where rice and wheat are not grown, these are grown by farmers who cannot afford to grow fine cereals. Coarse cereals also have a very high nutritious value. For a developing country like India, they are highly suitable for poor farmers to grow them on inferior quality, drier lands.

Question 7.

Why does India need irrigation?

Answer:

In India irrigation is needed for the spatio-temporal variation in rainfall. The water intensive crops makes irrigation necessary. Irrigation also makes multiple cropping possible. HYV varieties of crops require assured water supply at the right time to give the maximum production.

Question 8.

What are the advantages of common property resources?

Answer:

- CPR's provide fodder for the livestock and fuel for the households.
- It provides products like fruits, nuts, fibre, medical plants, etc.
- It provides livelihood of the landless and marginal farmers and other weaker sections. They depend on income from their livestock due to limited access to land.
- CPR's are also important for women to collect most of the fodder and fuel in rural areas.

Question 9.

Explain the conditions for the growth of wheat.

Answer:

Wheat is the second most important cereal crop in India after rice.

Conditions:

- It is primarily a crop of temperate zone. It is cultivated in India during winter, i.e. rabi season.
- It requires fertile soil, therefore about 85 per cent of total area under this crop is concentrated in north and central regions of the country, i.e. Indo Gangetic Plain, Malwa Plateau and Himalayas up to 2,700 m altitude.
- Being a rabi crop, it is mostly grown under irrigated conditions. But it is a rained crop in Himalayan highlands and parts of Malwa plateau in Madhya Pradesh.

Question 10.

Explain the conditions for the growth of rice.

Answer:

Rice is a staple food for the overwhelming majority of population in India.

Conditions:

- Though, it is considered to be a crop of tropical humid areas, it has about 3,000 varieties which are grown in different agro-climatic regions.
- These are successfully grown from sea level to about 2,000 m altitude and from humid areas in eastern India to dry but irrigated areas of Punjab, Haryana, western U.P. and northern Rajasthan.
- In southern states and West Bengal the climatic conditions allow the cultivation of two or three crops of rice in an agricultural year. But in Himalayas and northwestern parts of the country, it is grown as a kharif crop during southwest Monsoon season.
- West Bengal, Punjab and Uttar Pradesh were the leading rice producing states in the country in 2009-10.

Question 11.

Which crops are included in oil seeds? Give a brief account of their production.

Answer:

Oil seeds include:

- Groundnut
- Rapeseed and mustard
- Soyabean and
- Sunflower

The oil seeds are produced for extracting edible oils. Drylands of Malwa plateau, Marathwada, Gujarat, Rajasthan, Telangana and Rayalseema region of Andhra Pradesh and Karnataka plateau are oil seeds growing regions of India. These crops together occupy about 14 per cent of total cropped area in the country.

Question 12.

Give the desired conditions for the growth of cotton.

Answer:

Desired Conditions:

- Cotton is a tropical crop grown in kharif season in semi-arid areas of the country.
- Cotton requires clear sky during flowering stage.
- Black soil is most suitable for production of cotton.
- Leading producers of this crop are Maharashtra, Gujarat, Andhra Pradesh, Punjab and Haryana. Per hectare output of

cotton is high under irrigated conditions in north western region of the country. Its yield is very low in Maharashtra where it is grown under rained conditions.

Question 13.

Give the desired conditions for the growth of sugarcane.

Answer:

Desired Conditions:

- Sugarcane is a crop of tropical areas. Under rainfed conditions, it is cultivated in sub-humid and humid climates.
- It is largely an irrigated crop in India.
- In Indo-Gangetic plain, its cultivation is largely concentrated in Uttar Pradesh. Sugarcane growing area in western India is spread over Maharashtra and Gujarat.
- In Southern India, it is cultivated in irrigated tracts of Karnataka.

Question 14.

What is package technology?

Answer:

New seed varieties of wheat (Mexico) and rice (Philippines) known as high yielding varieties (HYVs) were available for cultivation by mid-1960s. India also introduced package technology comprising HYVs, along with chemical fertilisers in irrigated, areas of Punjab, Haryana, Western Uttar Pradesh, Andhra Pradesh and Gujarat. Its basic need was assured supply of soil moisture through irrigation. This strategy of agricultural development paid dividends instantly and increased the foodgrains production at very fast rate. This spurt of agricultural growth came to be known as 'Green Revolution' which is a result of package technology.

Question 15.

Explain the land-use categories as maintained in the Land Revenue Records?

Answer:

The land-use categories as maintained in the Land Revenue Records are as follows:

- Forests
- Land put to non-agricultural Uses
- Barren and Wastelands
- Area under Permanent Pastures and Grazing Lands
- Area under Miscellaneous Tree Crops and Groves (Not included is Net sown Area)
- Culturable Wasteland
- Current Fallow
- Fallow other than Current Fallow
- Net Area Sown

Class 12 Geography Chapter 3 Long Answer Type Questions

Question 1.

Give the land-use categories based on Land revenue records.

Answer:

The land-use categories as maintained in the Land Revenue Records are as follows: (zj Forests: It is important to note that area under actual forest cover is different from area classified as forest. The latter is the area which the Government has identified and demarcated for forest growth.

- Land put to Non-agricultural Uses: Land under settlements (rural and urban), infrastructure (roads, canals, etc.), industries, shops, etc. are included in this category.

- **Barren and Wastelands:** The land which may be classified as a wasteland such as barren hilly terrains, desert lands, ravines, etc. normally cannot be brought under cultivation with the available technology.
- **Area under Permanent Pastures and Grazing Lands:** Most of this type land is owned by the village 'Panchayat' or the Government. Only a small proportion of this land is privately owned. The land owned by the village panchayat comes under 'Common Property Resources'.
- **Area under Miscellaneous Tree Crops and Groves (Not included is Net sown Area):** The land under orchards and fruit trees are included in this category. Much of this land is privately owned.
- **Culturable Waste-Land:** Any land which is left fallow (uncultivated) for more than five years is included in this category. It can be brought under cultivation after improving it through reclamation practices.
- **Current Fallow:** This is the land which is left without cultivation for one or less than one agricultural year. Fallowing is a cultural practice adopted for giving the land rest. The land recoups the lost fertility through natural processes.
- **Fallow other than Current Fallow:** This is also a cultivable land which is left uncultivated for more than a year but less than five years. If the land is left uncultivated for more than five years, it would be categorised as culturable wasteland.
- **Net Area Sown:** The physical extent of land on which crops are sown and harvested is known as net sown area.

Question 2.

How is land significant/valuable in the livelihood of people?

Answer:

Land resource is more crucial to the livelihood of the people depending on agriculture:

- Agriculture is a purely land based activity unlike secondary and tertiary activities. In other words, contribution of land in agricultural output is more compared to its contribution in the outputs in the other sectors. Thus, lack of access to land is directly correlated with incidence of poverty in rural areas.
- Quality of land has a direct bearing on the productivity of agriculture, which is not true for other activities.
- In rural areas, aside from its value as a productive factor, land ownership has a social value and serves as a security for credit, natural hazards or life contingencies, and also adds to the social status.

Question 3.

What is the staple crop of our country? How many varieties are there? What is India's contribution to the world? Where is it grown in India?

Answer:

Rice is the staple crop of the country. Rice is a tropical crop and has about 3,000 varieties that are grown in different agro-climatic regions from sea level to about 2,000 m altitude

and from humid areas in eastern India to dry but irrigated areas of the west. In southern states and West Bengal two to three crops of rice in an agricultural year. In West Bengal farmers grow three crops of rice called 'aus', 'aman' and 'boro'.

India contributes 21.6 per cent of rice production in the world and ranked second after China (2008-09). West Bengal, Punjab and Uttar Pradesh were the leading rice producing states in the country in 2009-10. The yield level of rice is high in Punjab, Tamil Nadu, Haryana, Andhra Pradesh, West Bengal and Kerala. The yield of this crop is very low in rainfed areas of M.P., Chhattisgarh and Odisha.

Question 4.

Show with example the development of agricultural with technology.

Answer:

There has been a significant increase in agricultural output and improvement in technology during the last fifty years.

- Production and yield of many crops such as rice and wheat has increased at an impressive rate. The production of sugarcane, oil seeds and cotton has also increased appreciably. India ranked first in the production of pulses and jute in 2008-09. It is the second largest producer of rice, wheat, groundnut, sugarcane and vegetables.
- Expansion of irrigation has played a very crucial role in enhancing agricultural output in the country and helped in the introduction of modern agricultural society such as high yielding varieties of seeds, chemical fertilizers, pesticides and farm machinery. The net irrigated area in the country has increased from 20.85 to 54.66 million ha over the period 1950-51 to 2000-01. Over these 50 years, area irrigated more than once in an agricultural year has increased from 1.71 to 20.46 million ha.
- In various areas of the country modern agricultural technology has spread very fast. Consumption of chemical fertilizers has increased by 15 times since mid-sixties. In 2001-02, per hectare consumption of chemical fertilizers in India was 91 kg which was at par with average consumption in the world (90 kg). Punjab and Haryana uses three to four times of this. Since the high yielding varieties are highly susceptible to pests and diseases, the use of pesticides has increased significantly since 1960's.

Question 5.

Write a note on the problems of Indian agriculture.

Ans. The nature of problems faced by •Indian agriculture varies according to agro-ecological and historical experiences of its different regions. But there are some problems which are common and range from physical constraints to institutional hindrances. Some problems are:

- Dependence on Erratic Monsoon: Irrigation covers only about 33 per cent of the cultivated area in India. The crop production in rest of the cultivated land directly depends on rainfall. Spatio- temporal variations in rainfall causes fluctuations in steady supply of water and makes them vulnerable to both drought and floods.

- **Low productivity:** The yield of the crops in the country is low in comparison to the international level. Because of the very high pressure on the land resources, the labour productivity in Indian agriculture is also very low in comparison to international level.
- **Constraints of Financial Resources and Indebtedness:** The inputs of modern agriculture are very expensive for marginal and small farmers for them to invest in agriculture. Crop failures and low returns from agriculture have forced them to fall in the trap of indebtedness.
- **Lack of Land Reforms:** In India there had been unequal distribution of land over the years. Though land reforms were made after independence, they were not implemented affectively due to lack of strong political will. Lack of implementation of land reforms resulted in unequal distribution of cultivable land.
- **Small Farm Size and Fragmentation of Landholdings:** There are a large number of marginal and small farmers in the country. The average size of land holding is shrinking due to law of inheritance. The land holdings are mostly fragmented. Even the states where consolidation of land holdings was carried out once, second consolidation is required. The small size fragmented landholdings are uneconomic.
- **Lack of Commercialization:** A large number of farmers produce crops for self-consumption. These farmers do not have enough land resources to produce more than their requirement. Most of the small and marginal farmers grow food grains, which are meant for their own family consumption.
- **Vast Under-employment:** There is a massive under-employment in the agricultural sector in India, particularly in the un-irrigated tracts. The people engaged in agriculture do not have the opportunity to work round the year.
- **Degradation of Cultivable Land:** Degradation of land resources is a serious problem caused due to faulty strategy of irrigation and agricultural development which leads to depletion of soil fertility. Excessive use of chemicals such as insecticides and pesticides has made the soil toxic. Absence of leguminous plants and decrease in duration of fallow land has reduced natural fertilization of soil.

Question 6.

Define common property resources.

Answer:

Land, according to its ownership can broadly be classified under two broad heads – private land and common property resources (CPR's). While the former is owned by an individual or a group of individuals, the latter is owned by the state meant for the use of the community, fodder form a degraded area of CPR. CPR's can be defined as community's natural resource, where every member has the right of access and usage with specified obligations, without anybody having property rights over them. Community forests, pasture lands, village water bodies and other public space are examples of CPR's which are used and managed by households.

CPR's provide fodder for the livestock and fuel for the households along with other minor forest products like fruits, nuts, fibre, medicinal plants, etc. In rural areas, such land is of particular relevance for the livelihood of the landless and marginal farmers and other weaker sections since many of them depend on income from their livestock due to the fact

that they have limited access to land. CPR's also are important for women as most of the fodder and fuel collection is done by them in rural areas. They have to devote long hours in collecting fuel and fodder from a degraded area of CPR.

Question 7.

Classify farming based on the 'source of moisture'.

Answer:

On the basis of main source of moisture for crops, the farming can be classified as irrigated and rainfed (barani). There is difference in the nature of irrigated farming as well based on objective of irrigation, i.e. protective or productive. The objective of protective irrigation is to protect the crops from adverse effects of soil moisture deficiency which often means that irrigation acts as a supplementary source of water over and above the rainfall. The strategy of this kind of irrigation is to provide soil moisture to maximum possible area. Productive irrigation is meant to provide sufficient soil moisture in the cropping season to achieve high productivity. In such irrigation the water input per unit area of cultivated land is higher than protective irrigation. Rainfed farming is further classified on the basis of adequacy of soil moisture during cropping season into dryland and wetland farming. In India, the dryland farming is largely confined to the regions having annual rainfall less than 75 cm.

These regions grow hardy and drought resistant crops such as ragi, bajra, moong, gram and guar (fodder crops) and practise various measures of soil moisture conservation and rain water harvesting. In wetland farming, the rainfall is in excess of soil moisture requirement of plants during rainy season. Such regions may face flood and soil erosion hazards. These areas grow various water intensive crops such as rice, jute and sugarcane and practise aquaculture in the fresh water bodies.

Question 8.

What are the three economic factors that affect land-use?

OR

Describe the three types of changes that of changes that an economy undergoes which affect its land use pattern.

Answer:

Three factors that affect land-use are as follows:

- The size of the economy: The size of the economy grows over time as a result of increasing population, change in income levels, available technology and associated factors. As a result, the pressure on land will increase with time and marginal lands would come under use.
- The composition of the economy: The composition of the economy would undergo a change over time. In other words, the secondary and the tertiary sectors usually grow much faster than the primary sector, specifically the agricultural sector. This type of change is common in developing countries like India. This process would result in a gradual shift of land from agricultural uses to non-agricultural uses. Such changes are sharp around large urban areas. The agricultural land is being used for building purposes.

- Continuous pressure on agricultural land: Though the contribution of the agricultural activities reduces over time, the pressure on land for agricultural activities does not decline. The reasons for continued pressure on agricultural land are:
 - In developing countries, the share of population dependent on agriculture usually declines far slowly as compared to the decline in the sector's share in GDP.
 - The number of people that the agricultural sector has to feed keeps increasing day by day.

Question 9.

Which three categories have undergone increase in land use pattern? Explain why.

Answer:

Categories that have undergone increase in land use pattern are as follows:

- The rate of increase is the highest in case of area under non-agricultural uses. This is due to the changing structure of Indian economy, which is increasingly depending on the contribution from industrial and services sectors and expansion of related infrastructural facilities. Also, an expansion of area under both urban and rural settlements has added to the increase. Thus, the area under non-agricultural uses is increasing at the expense of wastelands and agricultural land.
- The increase in the share under forest, as explained before, can be accounted for by increase in the demarcated area under forest rather than an actual increase in the forest cover in the country.
- The increase in the current fallow cannot be explained from information pertaining to only two points. The trend of current fallow fluctuates a great deal over years, depending on the variability of rainfall and cropping cycles.
- The increase in net area sown is a recent phenomenon due to use of culturable waste land for agricultural purpose. Before which it was registering a slow decrease. There are indications that most of the decline had occurred due to the increases in area under non-agricultural use.

Question 10.

Give statistical account of small and fragmented landholdings. Why are small and fragmented landholdings undesirable?

Answer:

There are a large number of marginal and small farmers in the country. More than 60 per cent of the ownership holdings have a size smaller than one hectare. Furthermore, about 40 per cent of the farmers have operational holding size smaller than 0.5 hectare. The average size of landholding is shrinking further under increasing population pressure. Furthermore, in India, the landholdings are mostly fragmented. There are some states where consolidation of holding has not been carried out even once. Even the states where it has been carried out once, second consolidation is required as landholdings have fragmented again in the process of division of land among the owners of next generations.

The small size fragmented landholdings are uneconomic. A lot of land gets wasted in fencing and modern farming methods cannot be used for small landholdings.

Question 11.

What is the importance of pulses in our diet? What are the main pulses grown in India?

Answer:

Pulses are a very important ingredient of vegetarian food as these are rich sources of proteins. These are legume crops which increase the natural fertility of soils through nitrogen fixation.

- India is a leading producer of pulses and accounts for about one-fifth of the total production of pulses in the world.
- The cultivation of pulses in the country is largely concentrated in the drylands of Deccan and central plateaus and northwestern parts of the country.
- Pulses occupy about 11 per cent of the total cropped area in the country.
- Being the rainfed crops of drylands, the yields of pulses are low and fluctuate from year to year.
- Gram and tur are the main pulses cultivated in India. Gram is cultivated in subtropical areas. It is mostly a rainfed crop cultivated during rabi season in central, western and northwestern parts of the country. Tur (Arhar) is the second important pulse crop in the country. It is also known as red gram or pigeon pea. It is cultivated over marginal lands and under rainfed conditions in the dry areas of central and southern states of the country. This crop occupies only about 2 per cent of total cropped area of India.

Class 12 Geography Chapter 3 Differentiates

Question 1.

What is the basic difference between Land Revenue Department and Survey of India?

Answer:

Land Revenue Department	Survey of India
It changes somewhat depending on the estimates of the land revenue records	It does not change, and stays fixed as per Survey of India measurements

Question 2.

Differentiate between protective irrigation and productive irrigation.

Answer:

Basis	Protective irrigation	Productive irrigation
objective	The objective of protective farming is to protect the crops from adverse affects of lack of soil moisture.	Irrigation is done to achieve high productivity.
Irrigation	Irrigation acts as an additional source of water over and above the rainfall.	It tends to provide sufficient soil moisture in cropping season.

Water requirement	The strategy of this kind of irrigation is to provide soil moisture to maximum possible area.	In such irrigation the water input per unit area of cultivated land is higher than protective irrigation.
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Class 12 Geography Chapter 3 Higher Order Thinking Skills (HOTS)

Question 1.

Compare the features of productive and protective irrigation.

Answer:

Protective Irrigation:

- To protect crops from adverse effects of soil moisture deficiency.
- To provide soil moisture to maximum possible area.
- To supplement rain fed irrigation.

Productive Irrigation:

- To provide sufficient soil moisture in the cropping season to achieve high productivity.
- The water input in per unit area of cultivated land is higher than protective irrigation.
- To grow various water intensive crops such as rice, sugarcane etc.

Question 2.

Why is traditional cropping pattern changing in India nowadays

Answer:

Traditional cropping pattern is changing nowadays because:

- Expansion in irrigation facilities has facilitated growth of non-traditional crops. For example, growing rice in Punjab, wheat in West Bengal etc.
- Modern technology or advent of package technology.
- Changing food habits of people.
- Initiation of policy of liberalization and free market economy.
- Easy credit facility to farmers.

Question 3.

The Green Revolution was not equally successful in all parts of India. Why?

Answer:

The Green Revolution was not equally successful in all parts of India due to following reasons:

- Irrigation facilities were limited only to Punjab, Haryana and Western U.P.
- Farmers were not aware of modern technology and its accessibility.
- Good and high yielding varieties of seeds were not easily available because of faulty distribution and storage system.
- Poverty of farmers.
- Small size of land holdings.
- Lack of investment capacity.

Question 4.

“Indian farmers gamble with the monsoon”. Illustrate this statement.

Answer:

It is rightly said that Indian farmers gamble with monsoon. It can be proved through following facts:

- Uneven distribution of rainfall-spatial and temporal.
- Uncertainty of monsoon.
- Lack of irrigation facilities.
- Frequent flood and drought is a common phenomenon associated with the monsoon.

Question 5.

Why do the large number of farmers produce crops for self-consumption in India?

Answer:

In India many farmers are producing crops for self-consumption. Following reasons are responsible for it:

- Limited and small land holdings.
- Most of the farmers grow food grains to meet their family requirements.
- Lack of infrastructure and poor economic affordability.

Class 12 Geography Chapter 3 Map Based Questions

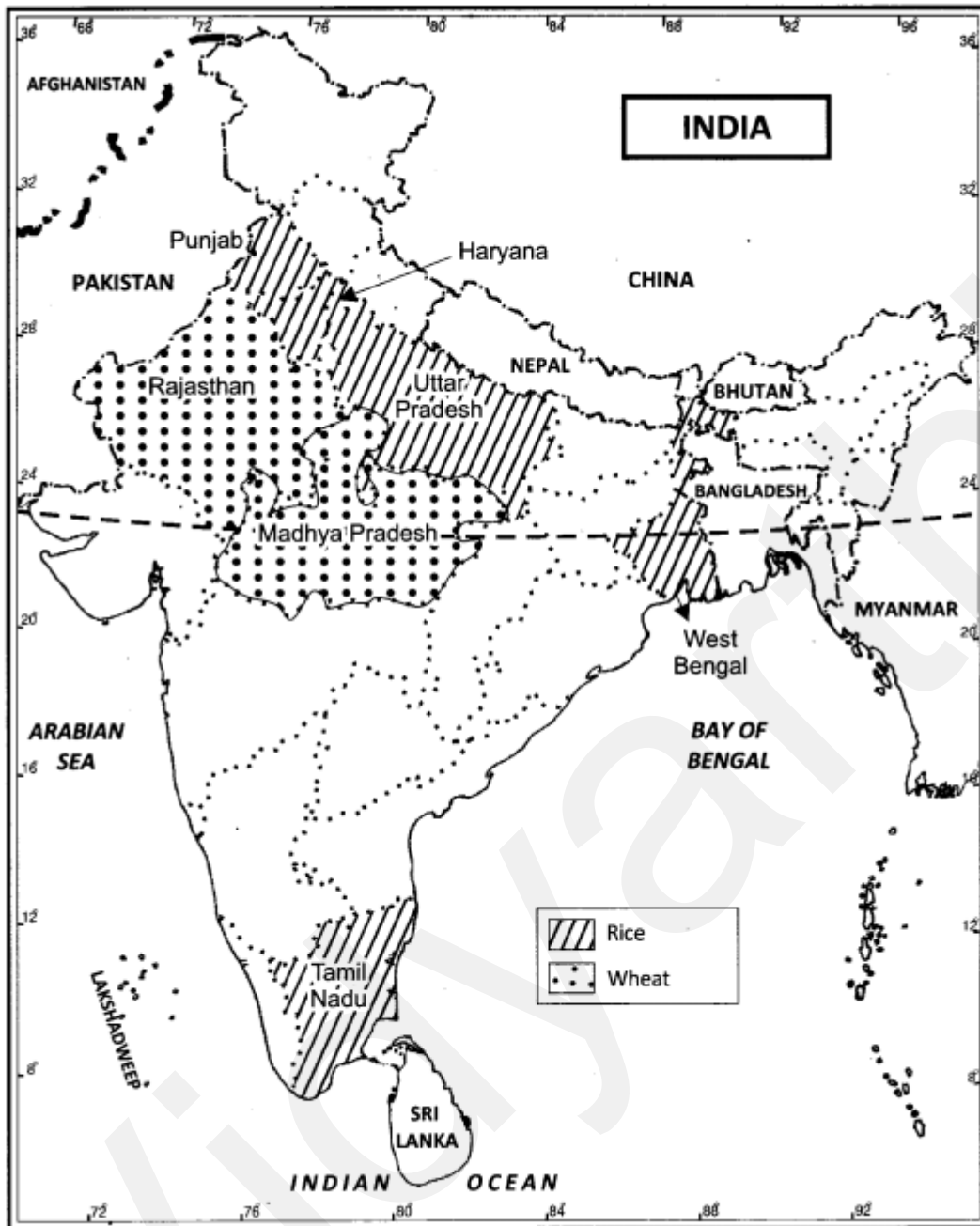
Question 1.

Locate and label the following on the political map of India with appropriate symbols.

- (i) Rice producing states
- (ii) Wheat producing states

Answer:

- (i) West Bengal, Punjab, Uttar Pradesh, Haryana, Tamil nadu
- (ii) Uttar Pradesh, Punjab, Haryana, Rajasthan and M.P.



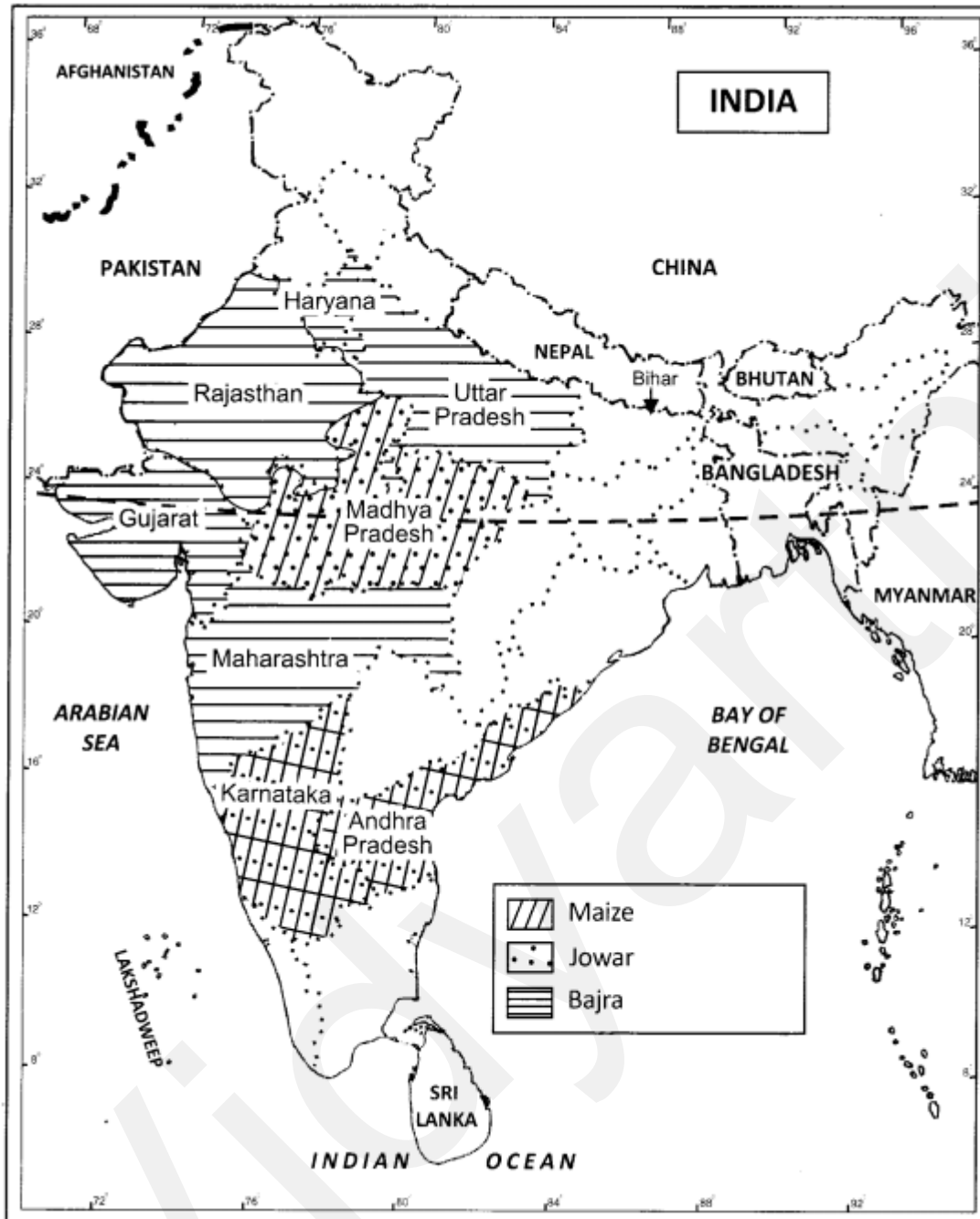
Question 2.

Locate and label the following on the political map of India with appropriate symbols.

- (i) Major maize producing states
- (ii) Major jowar producing states
- (iii) Major bajra producing states

Answer:

- (i) M.P., A.P., Karnataka, Rajasthan and Uttar Pradesh
- (ii) Maharashtra, Karnataka, M.P., A.P.
- (iii) Maharashtra, Gujarat, U.P., Rajasthan and Haryana



Question 3.

Locate and label the following on the political map of India with appropriate symbols,

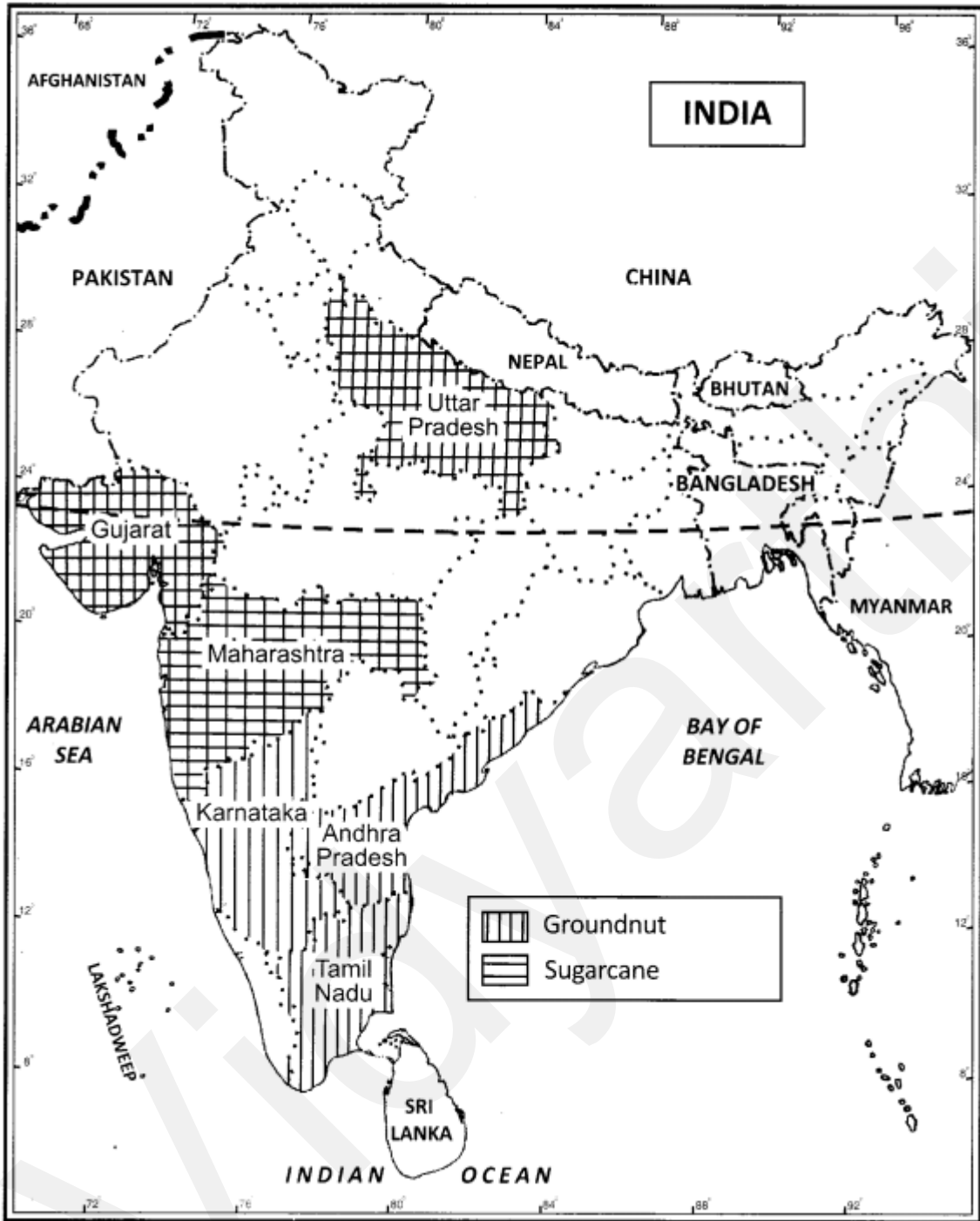
(i) Leading producer of groundnut

(ii) Leading producer of sugarcane

Answer:

(i) Gujarat, Tamil Nadu, Andhra Pradesh, Karnataka and Maharashtra

(ii) Uttar Pradesh, Maharashtra, Gujarat



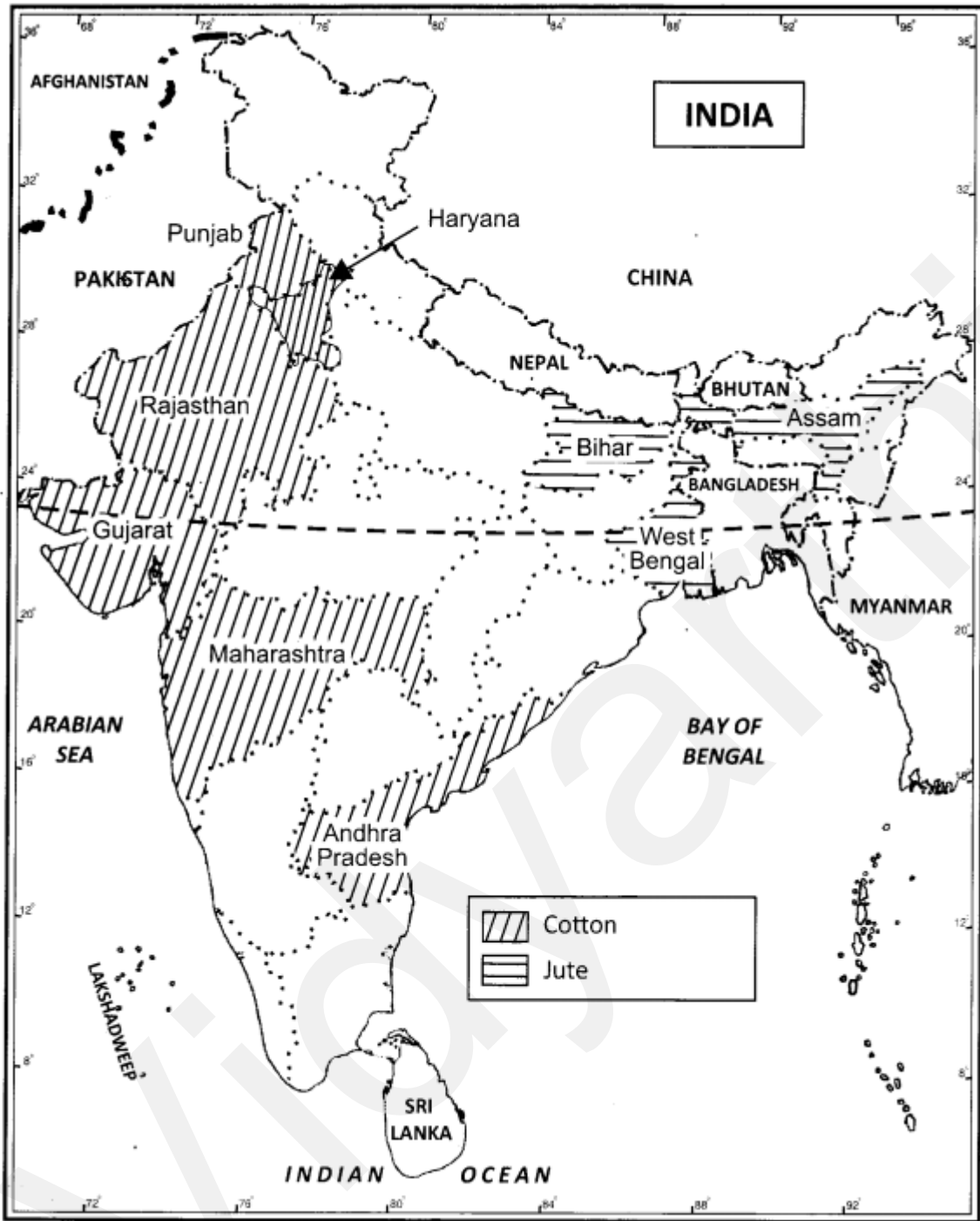
Question 4.

Locate and label the following on the political map of India with appropriate symbols.

- (i) Leading cotton producing states
- (ii) Leading jute producing states

Answer:

- (i) Punjab, Haryana, Rajasthan, Gujarat, Maharashtra, Andhra Pradesh
- (ii) West Bengal, Bihar, Assam



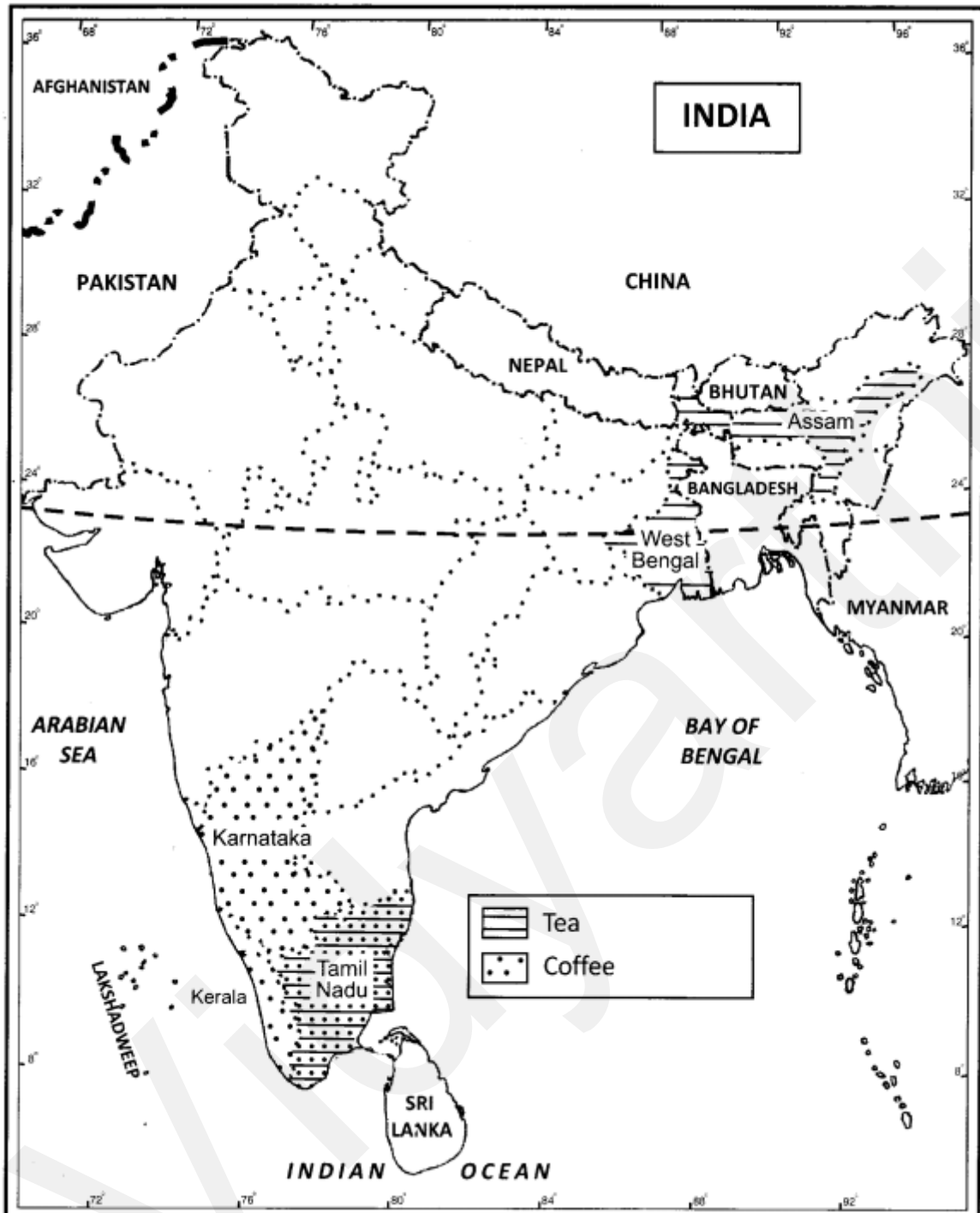
Question 5.

Locate and label the following on the political map of India with appropriate symbols.

- (i) Tea producing states
- (ii) Coffee producing states

Answer:

- (i) Assam, West Bengal, Tamil Nadu
- (ii) Karnataka, Kerala, Tamil Nadu



Class 12 Geography Chapter 3 Important Questions

Very Short Answer Type Questions:

Question 1.

How is the productive irrigation able to achieve high productivity in India? (A.I. 2009)

Answer:

Productive irrigation provides timely water in required quantity to crops and help in achieving high productivity in India.

Question 2.

What is the main objective of productive irrigation in India? (Foreign 2009)

Answer:

The main objective of productive irrigation is to achieve high productivity in India.

Question 3.

What is the contribution of India in the production of rice in the world? (A.I., Delhi 2011)

Answer:

India contributes 21.6 per cent of rice production in the world and ranked second after China.

Question 4.

Mention the two processes that induce land degradation in India. (Foreign 2011)

Answer:

Faulty strategy of irrigation and agricultural development.

Question 5.

Classify rainfed farming on the basis of adequacy of soil moisture during cropping season. (Delhi 2017)

Answer:

Classification of Rain fed farming:

- (i) Dry land farming
- (ii) Wet land farming

Short Answer Type Questions:

Question 1.

“Land degradation caused by human made processes are more harmful than natural processes in India.” Analyse the statement with suitable example. (Delhi 2009)

OR

Explain any three factors responsible for land degradation in India. (Delhi 2010)

OR

“Degradation of cultivable land is one of the most serious problems that arises out of irrigation and agricultural development in India.” Support this statement with three points. (CBSE 2011)

OR

How is the degradation of cultivable land one of the serious problems in India? Explain in any three points. (CBSE 2010)

Answer:

- A large tract of agricultural land has lost its fertility due to alkalisation and salinisation of soils and waterlogging,
- Excessive use of chemicals such as insecticides and pesticides has led to their concentration in toxic amounts in the soil profile.
- Leguminous crops have been displaced from the cropping pattern in the irrigated areas and duration of fallow has substantially reduced owing to multiple cropping.

Question 2.

Classify rainfed farming of India into two categories on the basis of adequacy of soil moisture during cropping season. Explain any two features of each. (A.I. 2010)

Answer:

Rainfed farming is classified on the basis of adequacy of soil moisture during cropping season into dryland and wetland farming.

Question 3.

Classify Indian farming into two groups on the basis of main source of moisture for crops. Write two features of each.

Answer:

On the basis of main source of moisture for crops, Indian farming can be classified into irrigated and rainfed farming. Features of irrigated farming:

- It protects the crops from adverse effects of soil moisture deficiency.
- It provides sufficient soil moisture in the cropping season to achieve high productivity.

Features of rainfed farming:

- Hardy and drought resistant crops such as ragi, bajra, moong, gram are grown.
- Practise various measures of soil moisture conservation and rain water harvesting.

Question 4.

Describe any three characteristics of 'wetland farming' in India. (A.I. 2013)

Answer:

Characteristics:

- In wetland farming, the rainfall is in excess of soil moisture requirement of plants during rainy season.
- These regions may face flood and soil erosion hazards.
- In these regions various water intensive crops are grown such as rice, jute and sugarcane.
- In the fresh water bodies aquaculture is practised.

Question 5.

State any two characteristics each of the three distinct 'cropping seasons' of India. (CBSE 2014)

Answer:

Kharif Crop Season:

- Kharif season largely coincides with South West Monsoon.
- Generally it prevails between June to September.
- Rice, Maize, Ragi Jowar, Bajara, Cotton, Jute are the major crops of this season.

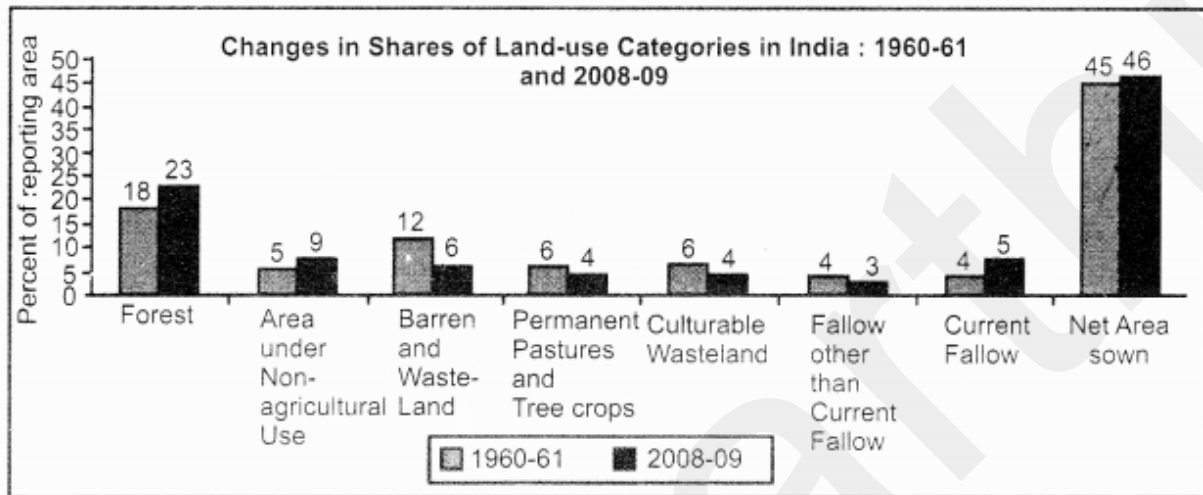
Rabi Crop Season:

- This season begins with the onset of winter.
- It begins in October and November and ends in March-April.
- Wheat, Gram, Rapeseeds, Mustard and Barley are its major crops of this season.

Zaid Crop Season:

- Zaid is the short duration cropping season.
- It begins after harvesting of rabi crops.
- The cultivation of watermelon, cucumbers, fruits, vegetables and fodder crops are largely grown in this season.

6. Study the given diagram carefully and answer the questions that follow: (Delhi 2017)



Question 7.(1)

Which land use category has shown the highest increasing trend? What percentage in reporting area has increased in that category, during the given period?

Answer:

Highest increasing trend in land use – Area under Non agricultural uses & 5:9 or 80%

Question 7.(2)

Explain any two reasons responsible for the increasing trend in that category.

Answer:

- Changing structure of the Indian Economy.
 - Expansion of industrial and service sector.
 - Expansion of related infrastructural facilities.
 - Expansion of area under urban and rural settlemc its.
 - It is expanding at the expense of waste lands and agricultural lands.
- (Any two reasons to be explained)

Long Answer Type Questions:

Question 1.

Explain the term 'cropping intensity'. Describe the three cropping seasons in India. (CBSE 2014)

Answer:

Intensity of cropping means the number of crops raised on a field during an agricultural year. It indicates the efficiency of land use. The three cropping seasons of India are: kharif, rabi and zaid.

Kharif: It coincides with southwest Monsoon. This season starts from June and ends in September. During this season tropical crops such as rice, cotton, jute, jo war. bajra and tur are grown.

Rabi: The rabi season begins with the onset of winter in October-November and ends in March-April. The low temperature conditions during this season facilitate the cultivation of temperate and subtropical crops such as wheat, gram and mustard.

Zaid: Zaid is a short duration summer cropping season beginning after harvesting of rabi crops. Watermelons, cucumbers, vegetables and fodder crops are cultivated during this season.

Question 2.

Explain the importance of foodgrains in the Indian agricultural economy. Describe any three characteristics of rice cultivation. (CBSE, A.I. 2015)

OR

Explain the importance of food grains in the Indian agricultural economy. Describe any three characteristics of rice cultivation. (A.I. 2015)

Answer:

The importance of foodgrains in Indian agricultural economy:

- These crops occupy about two-third of total cropped area in the country.
- They are dominant crops in all parts of the country whether they have subsistence or commercial agricultural economy.
- They feed a large population of the country.
- They are used as raw materials in the agro-based industries.

Question 3.

“Erratic monsoon” and ‘Indebtness are the major problems of India agriculture.’ Suggest and explain the measures to overcome these problems. (CBSE 2016)

Answer:

Suggestions to solve the problem of erratic monsoon are:

- **Expansion of Irrigation Facilities:** Irrigation covers only 33 per cent of cultivated area. The rest of the cultivated land directly depends on rainfall. More and more cultivated area should be under irrigation to get more production from the same field.
- Efficient use of water is essential.
- Improved methods for irrigation be adopted.
- Rainwater harvesting is required to recharge ground water and to check the declining ground water table so that the availability of ground water continue for irrigation.
- Linkage of rivers.
- Maintenance of existing water bodies such as lakes, ponds, tanks etc.
- Availability of drought resistant good quality of seeds.

Suggestions for solving the problem of rural indebtedness:

- Minimum support price.
- Provision of subsidies on seeds and fertilizers.
- Cheap loan facilities to be provided to the farmers for their purchases and marriages.
- Gramin banks, Banks and Cooperative banks to be opened more and more in rural areas.
- Storage facilities be provided to the farmers.
- Rural roads should be developed.
- To supplement the economy of farmers, rearing of wild animals is essential.

Question 4.

Review any five measures adopted to solve the problems of Indian agriculture. (A.I. 2017)

Answer:

Five measures adopted to solve the problems of Indian agriculture:

To increase food grains production by

- Intensification of cropping over cultivated land.
 - Increase cultivated area wherever possible.
 - To use HYV seeds, .
 - Easy availability of fertilizers, pesticides and insecticides.
 - Expansion of irrigation facilities,
 - Use modern agricultural technology.
- (Review any five points/measures)