Chapter 5

Land Resources and Agriculture

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 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. 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 hnd 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 rained 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.