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- 1 "India's vast and diverse size is the most important resource." Support the statement. 3

Ans :

India has land under a variety of relief features such as plains, plateaus, mountains and islands. About 43 per cent of land areas is plain, which provides facilities for agriculture and industry. Mountains account for 30 per cent of the total surface area of the country and ensure perennial flow of some rivers, provide facilities for tourism and ecological aspects. About 27 per cent of the area is the plateau region. It possesses rich reserves of minerals, fossil fuels and forests.

- 2 Distinguish between potential resource and stock with the help of examples. 3

Ans :

Potential resources: Resources which are found in a region, but have not been utilised are termed potential resources. They are either not easily accessible or not properly developed for present use but have the potential to fulfil our needs whenever we require them with development of technology and infrastructure. For example, the states of Rajasthan and Gujarat have enormous potential for development of wind and solar energy, but they have not been significantly developed yet.

Stock: Stock, on the other hand, are materials in the environment which have the capacity to satisfy human needs but human beings do not have the appropriate technology to access these. For example, water is a compound of two inflammable gases, hydrogen and oxygen, which can be used as a rich source of energy. But the required technical know-how is not available at present.

- 3 Explain what is meant by national resources and individual resources. 3

Ans :

National Resources: Technically all resources belong to a nation. A country has legal powers to acquire even private property for public good. All the minerals, water, forest, wildlife, land without the political boundary and oceanic area up to 12 Nautical miles from the coast are national resources. **Individual Resources:** The resources that are owned by individuals are called individual resources. For example, farmer's own farms, residential plots, plantation, and all household goods.

- 4 Examine the three major problems created as a result of indiscriminate utilization of natural resources.

3

Or

'Indiscriminate use of resources has led to numerous problems'. Justify the statement.

Ans :

Indiscriminate use of resources by human beings has led to economic, social and ecological problems. The major problems that have arisen due to overexploitation, irrational consumption and indiscriminate use of resources are:

(a) Depletion of resources for satisfying the greed of a few selfish individuals.

(b) Accumulation of resources in a few hands, which in turn, has led to social segregation into rich and poor. The society is divided into two segments, i.e., the haves and the have-nots.

(c) Indiscriminate and uncontrolled exploitation of resources without consideration for the future has led to grave ecological problems like global warming, ozone layer depletion, environmental pollution and land degradation.

- 5 Which summit was convened for addressing urgent problems of environmental protection and socioeconomic development at the global level? Explain sustainable development in this context.

3

Ans :

The first International Earth Summit at Rio de Janeiro, Brazil in 1992 was convened to discuss problems of environmental protection and socio-economic development at the global level. The members signed Agenda 21 for achieving sustainable development in the 21st century. Agenda 21 aims a sustainable development to combat environmental damage, poverty, disease through global co-operation on common interests. Its aim is not only to protect the present generation but also posterity.

6 Explain three stages of resource planning.

3

Ans :

The three stages of Resource Planning are:

- (a) Surveying, mapping and measurement of characteristics and properties of resources.
- (b) Examining resources with respect to technology, economy and need.
- (c) Matching the resource development plans with overall national development plans.

7 "In India, some regions are rich in certain types of resources but deficient in some other resources." Do you agree with the statement? Support your answer with any three examples.

3

Ans :

Yes, in India, some regions are rich in certain type of resources but deficient in other, for example:

- (a) The state of Rajasthan is well endowed with wind and solar energy, but has shortage of water resources.
- (b) The cold desert of Ladakh has very rich cultural heritage but it is deficient in water, infrastructure and some vital minerals.
- (c) Arunachal Pradesh has abundance of water but lacks infrastructural development.

8 Mention three physical factors as well as three human factors which determine the use of land in India.

3

Ans :

Utilization of land for various purposes, such as cultivation, grazing of animals, mining and construction of roads is called land use pattern.

Factors that determine the use of land are

(a) Physical factors

(i) topography (ii) climate (iii) soil type

(b) Human factors

(i) population density (ii) technological capability (iii) culture and traditions

9 Why does the pattern of net sown area vary from one state to another?

3

Ans :

The pattern of net sown area varies greatly from one state to another. It is over 80 per cent of the total area in Punjab and Haryana. Geographical conditions like climate and soil here, are favourable for cultivation. Further, due to agricultural advancement through Green Revolution, more areas have been brought under cultivation. On the other hand, less than 10 per cent of the total area is net sown area in Manipur, Mizoram, Arunachal Pradesh, and Andaman and Nicobar Islands. Topographical constraints, unfavourable climate and socio-economic reasons account for the low proportion of net sown areas in these states. On account of the vast expanse of India, its relief, climate, soil and socio-economic set-up vary from region to region accounting for the variation in the pattern of net sown area from one state to another.

10 "33 per cent of the total land area of a country should be under forests." Justify the statement highlighting the environmental values of forests.

3

Ans :

The National Forest Policy (1952) outlines that forest area of a country should be 33 per cent of the geographical area. In India, it is about 19.39 per cent.

(a) Forests are essential for maintaining the ecological balance. Plants, animals and micro-organisms recreate the quality of air, that we breathe and the soil that produces our food, without which we cannot survive.

(b) Forests protect the genetic diversity of plants and animals for better growth of species and breeding.

(c) Forests are the primary producers on which all other living organisms survive.

11 Explain the role of humans in resource development.

3

Ans :

Humans are at the centre of resource development. Actually all resources become resource only when they are put to use by humans. It is human who makes natural things usable with help of technology. Had no technology been there, development would not have been possible. There are regions where natural resources are in abundance and there are regions which are resource-poor. But if humans are developed they make the region developed with technology, for example, Japan.

12 Explain the importance of conservation of resources.

3

Ans :

Conservation of resources is necessary because of following reasons:

(a) Resources are vital for any developmental activity but irrational consumption and overutilisation of resources may lead to socio-economic and environmental problems. To overcome these problems, resource conservation at various levels is important.

(b) If resources are not conserved at this point of time, then our future generations will be left with no resources at all. So it is very important to conserve the resources.

13 Suggest any six measures to solve the problem of land degradation in India. 3

Ans :

The following steps can be taken to solve the problem of land degradation.

(a) Contour ploughing: Ploughing along the contour lines can decelerate the flow of water down the slopes.

(b) Terrace cultivation: Steps can be cut out on the slopes, making terraces. Terrace cultivation restricts erosion.

(c) Strip cropping: Large fields can be divided into strips. Strips of grass are left to grow between the crops. This breaks up the force of the wind, reducing its effect.

(d) Afforestation.

(e) Control on over grazing.

(f) Stabilisation of sand dunes by growing thorny bushes.

(g) Proper management of waste lands.

(h) Proper discharge and disposal of industrial effluents and wastes after treatment. (any six)

14 "Consequences of environmental degradation do not respect national or state boundaries." Justify the statement. 3

Ans :

As environment belongs to the earth its impact is felt by the whole planet.

(a) For example, if carbon dioxide is being released by some rich countries global warming is affecting the lives of all the people on the planet.

(b) Air pollution moves along with air and cannot be restricted to any place or country.

(c) Ozone layer depletion has serious consequences for people all over the world.

15 Explain any three factors responsible for the formation of soil.

3

Ans :

Soil is the most important renewable natural resource. It supports many kind of living organisms and it is a medium of plant growth. It takes millions of years to form soil. It is a living system. Soil is formed through various factors like:

(a) Relief, bed rock, climate, vegetation, and many forms of life and time are important factors in the soil formation.

(b) Various forces of nature e.g. change in temperature, action of running water, glaciers, wind and the activity of decomposers help in the formation of soil.

(c) Chemical and organic changes taking place in soil are equally important.

16 What type of soil is found in river deltas of the eastern coast? Give two main features of this type of soil.

3

Or

Describe any three features of 'Alluvial Soil' found in India'.

Ans :

Alluvial soil. Its main features are:-

(a) Mostly these soils contain adequate proportion of potash and lime which are ideal for the growth of sugar cane, paddy, wheat etc.

(b) Such a soil is the result of deposits of river.

(c) It is a very fertile soil. (any two)

17 Distinguish between Khadar and Bangar. Name any two states where alluvial soils are found.

3

Ans :Differences between khadar and bangar:

Khadar soils	Bangar soils
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(a) On the basis of age, these are new alluvial soils. (b) These soils are fine and fertile. (c) They are found in the lower reaches of river valleys.	(a) On the basis of age, these are old alluvial soils. (b) These soils are coarse and less fertile than Khadar soils. (c) They are found in the upper reaches of river valleys.
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Alluvial soils are found in Gujarat and Rajasthan.

18 Mention any three characteristics of black soil. 3

Or

Describe any three features of 'Black Soil' found in India.

Ans :

The following are the characteristics of the black soil.

- (a) The black soil is made of clayey material and is well known for its capacity to hold moisture.
- (b) It is rich in soil nutrients, such as calcium carbonate, magnesium, potash and lime but is poor in phosphoric contents.
- (c) Black soil develops deep cracks during summer which help in proper aeration of the soil. These soils are sticky when wet and difficult to work on unless tilted just after the first shower.

19 Where is the forest soil found? How does the texture vary according to the environment? 3

Ans :

Forest soils are found in hilly and mountainous areas where rainforests are available. The soil texture is different depending on the mountain environment where they are found.

- (a) In the valley sides the soil is loamy and silty.
- (b) It is coarse in the upper slopes.
- (c) In the snow covered areas of Himalayas, where there is very little vegetation the soil is acidic with low humus content.
- (d) The soil found in the lower parts of the valley is fertile.

20 Mention any three features of arid soil. 3

Ans :

The following are the features of arid soil:

- (a) Arid soils have colour ranging from red to brown. They are generally sandy in texture and saline in nature.
- (b) In some areas salt content is very high and common salt can be obtained by evaporating the water.
- (c) Due to dry climate and high temperature, evaporation is faster and soils lack humus and moisture.
- (d) The lower part of the soil is occupied by kankar because of calcium content. (any three)

21 What is soil erosion? Write two human activities that lead to soil erosion.

3

Ans :

The denudation of the soil cover and subsequent washing down is described as soil erosion.

Two human factors leading to soil erosion are:

- (a) Deforestation: Due to heavy deforestation, soil erosion is increasing.
- (b) Overgrazing: In many regions, people still practise grazing of cattle, goats and sheep. Gradually this leads to soil erosion.

22 What does sustainable economic development mean? How can we eradicate irrational consumption and over-utilisation of resources?

3

Ans :

Sustainable economic development means that development should take place without damaging the environment and development in the present should not compromise with the needs of the future generations.

We can eradicate irrational consumption and overutilisation of resources through conservation of resources. Irrational consumption and overexploitation of resources lead to many socio-economic and environmental problems. To overcome these problems and to preserve resources for our future generation, proper management and conservation of resources is essential.

23 State the diverse relief features of India and mention one significance of each.

3

Ans :

India has a variety of relief features i.e., mountains, plateaus and plains. Mountains occupy 30 per cent of the land area. Plateau region is about 27 per cent while plains form 43 per cent of land area. Mountains ensure perennial flow of some rivers. They are important tourist destinations and picnic spots. Plateaus are the storehouse of minerals, fuels and forests. Plains provide facilities for agriculture and industry.

24 What steps can be taken to control soil erosion in hilly areas?

3

Ans :

The following steps can be taken to control soil erosion in the hilly areas:

- (a) Ploughing along the contour lines can decelerate the flow of water down the slopes. This is also called contour ploughing.
- (b) Steps can be cut out on the slopes making terraces. Terrace cultivation restricts erosion.
- (c) Strip cropping is a very effective method of soil conservation or controlling soil erosion. Large fields are divided into strips and strips of grass are left to grow between the crops.

25 Describe the different steps of 'resource planning.'

3

Ans :

The following are the steps involved in resource planning:

- (a) Surveying, mapping and measurement of characteristics and properties of resources.
- (b) Examining resources with respect to technology, economy and need.
- (c) Matching the resource development plans with overall national development plans.

26 Why do we need resource planning?

3

Ans :

It was believed that resources are free gifts of nature. As a result, human beings used them indiscriminately and this has led to the following major problems:

27 Mention any three features of red and yellow soils.

3

Ans :

- (a) Red soil develops on crystalline igneous rocks in areas of low rainfall in the eastern and southern parts of the Deccan plateau.
- (b) These soils develop a reddish colour due to diffusion of iron in crystalline and metamorphic rocks.
- (c) It looks yellow when it occurs in a hydrated form.
- (d) Yellow and red soils are also found in parts of Odisha, Chhattisgarh, southern parts of the middle Ganga plain and along the piedmont zone of the Western Ghats.

28 Suggest the ways for soil conservation.

3

Ans :

- (a) Contour ploughing: Ploughing along the contour lines can decelerate the flow of water down the slopes.
- (b) Terrace cultivation: Steps can be cut out on the slopes making terraces. It restricts erosion.
- (c) Strip cropping: Large fields can be divided into strips. Strips of grass are left to grow between the crops. This breaks up the force of the wind.
- (d) Shelter belts: Planting lines of trees are called shelter belts. These shelter belts have contributed significantly to the stabilisation of sand dunes and in stabilising the desert in western India.

29 What are resources? Explain any four factors for resource development in India.

5

Ans :

Resources are objects in the environment, which are technologically accessible, economically feasible and culturally acceptable, and fulfil the basic needs of man. The factors responsible for resource development in India are as follows.

- (a) The availability of resources is a necessary condition for the development of any region or state.
- (b) Resources can contribute to development only when they are accompanied by appropriate technology and institutional changes.
- (c) Resource development also involves quality of human resources.
- (d) India has vast natural resources. After independence concerted efforts were made through Five Year Plans for the overall development of the economy.

30 Distinguish between renewable and non-renewable resources, giving five points of distinction.

5

Ans :

Renewable resources	Non-renewable resources
(a) These can be renewed or reproduced by physical, chemical or mechanical processes.	(a) These occur over a very long period of time.
(b) These get renewed over a short period of time.	(b) These are limited in availability.
(c) Also known as replenishable resources.	(c) These are exhaustible.
(d) These are divided into continuous and flow.	(d) These are divided into recyclable and nonrecyclable.
(e) Examples: water, wind, forests, wildlife and soil.	(e) Examples: minerals and fossil fuels.

31 Classify resources on the basis of status of development into four groups. Explain the main feature of any one group.

5

Ans :

On the basis of status of development, the resources can be divided into the following:

(a) Potential Resources (b) Developed Resources (c) Stock (d) Reserves

(a) Potential Resources: These are the resources that are found in a region, but have not been utilized. eg. Rajasthan and Gujarat have the potential for the development of wind and solar energy, but so far, they have not been developed on a large scale.

(b) Developed Resources: These are the resources which are surveyed and their quality and quantity have been ascertained for utilization. The development of these resources depend upon availability of technology and level of feasibility.

(c) Stock: These resources have the potential to satisfy human wants and needs but appropriate technology is not available to develop these resources, e.g. water is a compound of hydrogen and oxygen and are rich source of energy. However, India does not have the technical knowhow to develop these resources.

(d) Reserves: Reserves are part of stock, which can be put into use with the help of existing technology. But their use has not been started eg. water in rivers, dams, forests are reserves, which can be used. Rivers are used for generating hydro-electric power, but in a very small way. (Explain any one of the four resources.)

32 What is the need for conservation of resources? Elucidate in the light of Gandhi's view.

5

Ans :

Irrational consumption and overexploitation of resources without consideration for the future generations have led to grave socio-economic and environmental problems. Social and economic distinctions on the basis of the haves and the have-nots and global ecological problems like global warming, ozone layer depletion, environmental pollution and land degradation are all consequences of uncontrolled exploitation of resources. To overcome these problems and to preserve resources for our future generations as well, conservation of resources is essential. Gandhi expressed his concern about resource conservation through these words, "There is enough for everybody's need but not for anybody's greed." According to Gandhiji, greedy and selfish individuals and exploitative nature of modern technology are the root cause for resource depletion at the global level. He advocated production by the masses and was against mass production that lead to uncontrolled exploitation of resources. Accumulation of resources in a few hands due to indiscriminate exploitation of resources has divided the society into rich and poor. An equitable distribution of resources has become essential for sustained quality of life and global peace. This can reduce tension between countries and lead to planned and judicious use of resources. Similarly, conservation of resources can also help tackle ecological crises of global level.

33 What are the steps involved in the complex process of resource planning? Why is resource planning important in the context of a country like India?

5

Ans :

Resource planning is a complex process which involves:

- (a) Identification of resources across the country through surveying, mapping and preparation of inventory of resources through their quantitative and qualitative estimation and measurement.
- (b) Develop a planning structure for resource development taking into account technology, skill and infrastructure available for implementing the plans.
- (c) Matching the resource development plans with overall national development plans. This involves systematic planning of exploitation of resources.

Resource planning is important in a country like India, which has enormous diversity in the availability of resources. While some regions are rich in certain types of resources, they may be deficient in some other types of resources. For example, a mineral-rich region may be poor in infrastructure or may be socio-culturally backward and included in economically backward regions. Some regions are self-sufficient in terms of availability of resources, while, on the other hand, there are regions that face an acute shortage of resources. Thus, for proper development, distribution, sharing and utilisation of resources, taking into consideration the technology, quality of human resources and historical experiences of the people, resource planning is essential for development. India has made concerted efforts for achieving the goals of resource planning right from the First Five Year Plan launched after Independence.

34 How much land is degraded in India at present? Explain any four human activities which are mainly responsible for land degradation in India.

5

Ans :

At present, about 130 million hectares of land is degraded in India. Continuous use of land over a prolonged period of time without taking necessary steps to conserve and manage it, has resulted in land degradation. Four human activities responsible for land degradation in India are as follows:

(a) In states like Jharkhand, Chhattisgarh, Madhya Pradesh and Orissa deforestation due to mining have caused severe land degradation. Mining sites are dug, drilled and abandoned after excavation work is over, leaving the land overburdened and in a highly degraded state.

(b) Mineral processing like grinding of limestone for cement industry and calcite and soapstone for ceramic industry generate huge quantity of mineral dust in the atmosphere which ultimately settles down on the land. It retards the process of infiltration of water into the soil, thus, degrading the land. Discharge of industrial effluents and wastes cause pollution and land degradation in industrial regions.

(c) In states like Gujarat, Rajasthan, Madhya Pradesh and Maharashtra overgrazing is one of the main reasons for land degradation.

(d) In Punjab, Haryana and Western Uttar Pradesh overirrigation is responsible for land degradation. It leads to water logging which in turn increases salinity and alkalinity in the soil and reduces its fertility.

35 How much land is degraded in India at present? How is land an important resource? Mention the relief features of India and their importance.

5

Ans :

At present there is about 130 million hectares of degraded land in India. Approximately 28 per cent belongs to the category of forest degraded area, 56 per cent is water eroded area, 6 per cent is affected by saline and alkaline deposits, and 10 per cent is wind eroded area. Land is an important resource. We perform all our economic activities on land. It supports natural vegetation, wildlife and human life. We build our railways and roads on land. Since the land is finite we have to use it very carefully after careful planning.

The diverse relief features of India are mountains, plateaus, plains and islands. About 43 per cent of land is plain, which provides facility for agriculture and industry. Mountains form 30 per cent of the total geographical area of the country. They are a source for perennial rivers, for tourism and ecological balance. Plateaus form 27 per cent of the total geographical area. The plateaus are storehouse of minerals, fossil fuels and forests.

36 Give the importance of soil. Explain three factors responsible for soil formation.

5

Ans :

Soil is the medium of plant growth and supports different types of living organisms, including animals and human beings, by providing them with food for their survival. Human existence and settlement is determined by soil fertility as it determines agricultural productivity of an area. Soil determines the natural vegetation and type of crop production of an area. It also influences the land use of an area. Areas of fertile soil are agriculturally productive and densely populated. It is one of the most important renewable natural resource. Relief, nature of parent rock or bedrock, climate, vegetation and other forms of life (especially decomposers) and time are important factors in the formation of soil.

The three most important factors of soil formation are:

(a) Nature of parent rock influences the colour and texture of the soil. The mineral content of the soil also depends on the parent rock from which it is formed.

(b) Climate influences the rate and types of weathering and erosion of the rocks. Weathering of the parent rocks due to climatic factors and natural forces lead to disintegration of rocks which leads to the formation of soil.

(c) Time determines maturity of the soil. The soil is a living system. It takes millions of years to form soil upto a few cm in depth.

37 Distinguish between red and laterite soils stating five points of distinction.

5

Ans :

Red soil	Laterite soil
(a) It is formed due to weathering of igneous and metamorphic rocks.	(a) It is formed by the leaching process in the tropical areas of heavy rainfall.
(b) It is highly porous and less fertile but where it is deep, it is fertile.	(b) It is less fertile, only grass grows on it in abundance.
(c) It is less crystalline.	(c) It is crystalline.
(d) It is red in colour due to the presence of iron in it.	(d) It is red in colour due to little clay and much gravel of red sandstones.
(e) It is found in parts of Tamil Nadu, Karnataka, Andhra Pradesh, Orissa and Jharkhand.	(e) It is found in hills of the Deccan, Karnataka, Kerala, Orissa, Assam and Meghalaya.

38 What is soil erosion? How do human activities and natural forces cause soil erosion? Suggest measures of soil conservation in hilly, and mountainous areas and in desert areas.

5

Ans :

The denudation or destruction of the soil cover and their subsequent natural removal is termed soil erosion. Human activities as well as natural forces cause denudation of the top soil. The soil nutrients are subsequently washed away by running water or blown away by wind. Human activities like deforestation, overgrazing, construction and mining as well as faulty methods of farming lead to soil erosion. Natural forces like wind, water and glacier can cause soil erosion. Surface runoff leads to formation of gullies, badlands and ravines by cutting out channels in the soil. Entire topsoil may be washed off under the impact of sheet erosion caused by large water flows down a slope. Loose soil may be blown away by wind easily. In hilly and mountainous areas the following measures can help to control soil erosion:

- (a) Contour ploughing or ploughing along the contour lines of a high land can decelerate flow of water down the slopes.
- (b) Terrace cultivation or cutting of steps around the slopes to provide land for agriculture also checks downhill flow of water and controls soil erosion, e.g. as in Western and Central Himalayan region.
- (c) Afforestation can help in soil conservation in hilly areas. In dry desert areas, planting of rows of trees known as shelter belts to check velocity of wind can control soil erosion. These shelter belts have contributed significantly to the stabilisation of sand dunes and checking the spread of desert in Western India.

39 "More availability of resources will not bring economic development."
Justify the statement.

5

Ans :

Only the availability of resources is not the index of economic development. The following are the points for its justification.

- (a) There has to be a continuous change and innovation in technology and institutions set up for resource extraction so as to minimise wastage.
- (b) Areas rich in resources may lack infrastructure and investment. It becomes necessary to attract investment in such areas through proper planning.
- (c) Apart from availability and extraction the resources must meet the developmental plans of an area.

40 What is regur soil? Write its two features. Mention any two regions where they are found.

5

Ans :

Black soil is also called the regur soil.

Features

(a) Black soils are made of extremely fine, clayey material. They are rich in soil nutrients such as calcium carbonate, magnesium, potash and lime.

They are poor in phosphoric contents.

(b) Black soil develops deep cracks during hot weather season, which is helpful in aeration of soil. This soil is sticky when wet. It has to be tilled immediately during the pre-monsoon period.

Black soil is found in Deccan trap region spread over north, west Deccan.

It covers the plateaus of Maharashtra, Saurashtra, Malwa, Madhya Pradesh and Chhatisgarh.

41 "Resource planning has its importance in a country like India." Justify the statement with the help of suitable examples.

5

Ans :

(a) India has enormous diversity in the availability of resources like forests, soil, minerals, coal deposits, solar energy, etc.

(b) There are regions which are rich in certain types of resources but are deficient in some other resources. For example, the states of Jharkhand, Chhattisgarh and Madhya Pradesh are rich in minerals and coal deposits. Arunachal Pradesh has abundance of water resources but lacks in infrastructural development.

(c) There are some regions which can be considered self sufficient in terms of the availability of resources and there are some regions which have acute shortage of some vital resources. For example the state of Rajasthan lacks in water resources. The cold desert of Ladakh is isolated from rest of the country and is deficient in water, infrastructure and some vital minerals.

42 Highlight the major human activities responsible for land degradation.

5

Ans :

Some human activities such as deforestation, over grazing, mining and quarrying too have contributed significantly in land degradation.

(a) Mining sites are abandoned after excavation work is complete leaving deep scars and traces of over-burdening. In states like Jharkhand, Chhattisgarh, Madhya Pradesh and Odisha deforestation due to mining have caused severe land degradation.

(b) In states like Gujarat, Rajasthan, Madhya Pradesh and Maharashtra overgrazing is one of the main reasons for land degradation.

(c) In the states of Punjab, Haryana, western Uttar Pradesh, over irrigation is responsible for land degradation due to water logging leading to increase in salinity and alkalinity in the soil.

(d) The mineral processing like grinding of limestone for cement industry and calcite and soapstone for ceramic industry generate huge quantity of dust in the atmosphere. It retards the process of infiltration of water into the soil after it settles down on the land.

(e) Industrial effluents as waste have become a major source of land and water pollution in many parts of the country.

43 How do human activities and natural forces cause soil erosion?

5

Ans :

The processes of soil formation and erosion, go on simultaneously and generally there is a balance between the two. Sometimes, this balance is disturbed due to human activities and natural forces like:

(a) The running water cuts through the clayey soils and makes deep channels as gullies. The land becomes unfit for cultivation and is known as bad land. In the Chambal basin such lands are called ravines.

(b) Sometimes water flows as a sheet over large areas down a slope. In such cases the top soil is washed away. This is known as sheet erosion.

(c) Wind blows loose soil off flat or sloping land known as wind erosion.

(d) Soil erosion is also caused due to defective methods of farming. Ploughing in a wrong way i.e. up and down the slope form channels for the quick flow of water leading to soil erosion

44 Explain the land use pattern in India.

5

Ans :

(a) Total geographical area of India is 3.28 million sq km.

(b) The land under permanent pasture has decreased.

(c) Most of the other than the current fallow lands are either of poor quality or the cost of cultivation of such land is very high.

(d) The pattern of net sown area varies greatly from one state to another. It is over 80 per cent of the total area in Punjab and Haryana and less than 10 per cent in Arunachal Pradesh, Mizoram, Manipur and Andaman Nicobar Islands.

(e) Forest area in the country is far lower than the desired 33 per cent of geographical area, as it was outlined in the National Forest Policy (1952). Continuous use of land over a long period of time without taking appropriate measures to conserve and manage it, has resulted in land degradation.

45 Explain the uses of land resources.

5

Ans :

Land resources are used for the following purposes: (a) Forests

(b) Land not available for cultivation: (i) Barren and waste land
(ii) Land put to non-agricultural uses, e.g. buildings, roads, factories, etc.

(c) Other uncultivated land (excluding fallow land)

(i) Permanent pastures and grazing land,
(ii) Land under miscellaneous tree crops groves (not included in net sown area),
(iii) Culturable waste land (left uncultivated for more than 5 agricultural years).

(d) Fallow lands

(i) Current fallow-(left without cultivation for one or less than one agricultural year),
(ii) Other than current fallow-(left uncultivated for the past 1 to 5 agricultural years).

(e) Net sown area