



|                 |                  |  |
|-----------------|------------------|--|
| <b>Class 10</b> | <b>Geography</b> | <b>Ch 1: Resources and Development</b> |
|-----------------|------------------|--|

Very Short Answer Type Questions

**1. What is a Resource? Give two examples.**

**Answer:** Everything available in our environment which can be used to satisfy our needs, provided, it is technologically accessible, economically feasible and culturally acceptable can be termed as Resource. Coal, water, air, minerals etc. are some examples of resource.

**2. What is the role of humans in resource development ?**

**Answer:** (i) Human beings interact with nature through technology and create institutions to accelerate their economic development.  
(ii) Human beings transfer material available in our environment into resource and use them.

**3. How can the resources be classified on the basis of origin ? [CBSE 2010]**

**Answer:** Biotic and Abiotic.

**4. What are abiotic resources? [CBSE 2014]**

**Answer:** All those things which are composed of non – living things are called abiotic resources.

**5. A gas reserve has been discovered in an Ocean. The reserve is 19 km from the coast of the nation. Will it be considered an international resource or a national resource.**

**Answer:** All the resources upto 12 nautical miles (19.2 km) from the coast are termed as national resources. So this will be a national resource.

**6. "There is enough for everybody's need and not for anybody's greed". Who said these words?**

**Answer:** Mahatma Gandhi

**7. It is important to use the available land for various purposes with careful planning". Give reason.**

**Answer:** Because land is an asset of a finite magnitude.

**8. How can the resources be divided on the basis of exhaustibility?**

**Answer:** Renewable and Non-renewable.

**9. Classify the following resources as biotic and abiotic.**

**(i) Metals**

**(ii) Fauna**

**Answer:** (i) Metals – abiotic (ii) Fauna – biotic

**10. Give a single word for the following :**

**(i) Materials which have the potential to satisfy human needs but human beings do not have the appropriate technology.**

**(ii) The resources which can be renewed or reproduced by physical, chemical or mechanical processes.**

**Answer:** (i) Stock

(ii) Renewable

**11. Name any two states of India which are well endowed with solar energy.**

**Answer:** Gujarat and Rajasthan.

**12. Name any two factors on which resource development depends.**

**Answer:** (i) Technology

(ii) Quality of human resources.

**13. What is total geographical area of India?**

**Answer:** 3.28 million s km.

**14. Mention any two factors which determines the land use pattern of a nation.**

**Answer:** (i) Topography (ii) Population

**15. What is wasteland?**

**Answer:** An unused area of land like rocky, arid and desert areas.

**16. What is net sown area? [CBSE 2014]**

**Answer:** Area sown once a year is known as net sown area.

**17. What is gross sown area?**

**Answer:** This represents the total sown area once/or more than once in a particular year i.e. the area is counted as many as times as there are sowings in a year.

**18. Name any two states which have high percentage of net sown area.**

**Answer:** Punjab and Haryana

**19. Name any two states Which have very low percentage of net sown area.**

**Answer:** Arunachal Pradesh and Mizoram

**20. How much degraded land is present in India ?**

**Answer:** 130 million hectares.

**21. Name any two states where over grazing is one of the main reasons for land degradation.**

**Answer:** (i) Madhya Pradesh (ii) Rajasthan

**22. What are biotic resources? [CBSE 2014]**

**Answer:** These are obtained from biosphere and have life such as human beings, flora and fauna, fisheries, livestock etc.

**23. Name any two states where over irrigation is responsible for land degradation.**

**Answer:** (i) Punjab (ii) Haryana

**24. Name any two states where mining is responsible for land degradation.**

**Answer:** Jharkhand and Madhya Pradesh.

**25. How over-irrigation leads to land degradation?**

**Answer:** Over-irrigation degrades land due to water logging leading to increase in salinity and alkalinity of the soil.

**26. How can land degradation be checked in Rajasthan as the state is having arid soil? Mention any two methods.**

**Answer:** (i) Control on over grazing.  
(ii) Stabilisation of sand dunes.

**27. Suggest any two ways to check land degradation. [CBSE 2013, 14]**

**Answer:** (i) Afforestation  
(ii) Proper management of grazing

**28. Mention any two factors which have contributed in the development of various types of soils.**

**Answer:** (i) Varied relief features.  
(ii) Varied climatic conditions.

**29. 'The entire northern plains are made of alluvial soils. Name the rivers due to which the soils have been deposited.**

**Answer:** The Indus, the Ganga and the Brahmaputra.

**30. How can the alluvial soil be classified according to their age ?**

**Answer:** (i) Khadar (ii) Bangar

**31. Out of Khadar and Bangar soil which is more fertile ? Give one reason.**

**Answer:** Khadar soil is more fertile because it has more fine particles.

**32. Name any two minerals present in alluvial soil which makes it ideal for the growth of sugarcane, paddy, wheat and other cereals.**

**Answer:** Potash and lime.

**33. Name one important crop cultivated in :**

**(i) Alluvial soil (ii) Black-soil**

**Answer:** (i) Alluvial – Wheat (ii) Black – Cotton.

**34. Which soil is ideal for growing cotton ? [CBSE 2014]**

**Answer:** Black soil.

**35. Which soil is well known for their capacity to hold moisture ? Give reason.**

**Answer:** Black soil. Because black soil is made up of extremely fine clayey material.

**36. Name a mineral in which the black soil is poor.**

**Answer:** Phosphoric contents.

**37. Why black soil is tilled immediately after the first shower ?**

**Answer:** These soils are sticky when wet and difficult to work on.

**38. Name the soil which develops on crystalline igneous rocks.**

**Answer:** Red soil.

**39. 'Laterite' has been derived from the Greek word 'later'. What does the term later mean?**

**Answer:** Brick.

**40. The running water cuts through clayey soils and makes deep channels. What are they called?**

**Answer:** Gully erosion.

**41. Which state has mostly laterite soil?**

**Answer:** Karnataka.

**42. Which soil types is the result of intense leaching due to heavy rainfall?**

**Answer:** Laterite soil.

**43. Name the soil which develops in areas with high temperature and heavy rainfall.**

**Answer:** Laterite soil.

**44. Name any two crops associated with laterite soil.**

**Answer:** Tea and coffee.

**45. Which soils are generally sandy in texture and saline in nature?**

**Answer:** Arid soils.

**46. 'The lower horizon of the arid soils are occupied by kankar'. Give reason.**

**Answer:** This is because of increasing calcium content downwards.

**47. Name any two natural factors which are responsible for soil erosion.**

**Answer:** Wind and glacier.

**48. By which name is the bad land known in chambal basin?**

**Answer:** Ravines.

**49. What is sheet erosion?**

**Answer:** When the top layer of the soil is removed over a large area by running water, it is called sheet erosion.

**50. What is wind erosion?**

**Answer:** Wind blows loose soil off flat or sloping land. This is known as wind erosion.

**51. What is contour ploughing?**

**Answer:** Ploughing along the contour lines is known as contour ploughing.

**52. How contour ploughing helps in the soil conservation?**

**Answer:** Ploughing along the contour lines decelerates the flow of water down the slopes.

**53. What are shelter belts?**

**Answer:** Rows of trees which are planted in between the crops are known as shelter belts.

**54. How shelter belts help in file conservation of soil?**

**Answer:** The shelter belts break up the force of the wind.

**55. Name a method which has contributed significantly in soil conservation in western India.**

**Answer:** Shelter belts.

**56. What is net sown area? What percentage of total area is under net sown area in India?**

**Answer:** Area sown once in a year is known as net sown area. In 2008-2009, 46.24% of India's area was under net sown area.

**57. What is gross sown area?**

**Answer:** Area sown more than once in an agricultural year plus net sown area is known as gross sown area.

**58. Which soils is the most widely spread in India?**

**Answer:** Alluvial soil.

**59. What is bad land?**

**Answer:** It is a land which is unsuitable for cultivation. Mainly soil erosion converts a fertile land into a bad land.

**60. What is gully erosion?**

**Answer:** Gully erosion takes place when running water cuts deep ravines in the absence of vegetation. This type of erosion makes soil unfit for cultivation.

**61. What is strip cropping?**

**Answer:** Under strip cropping large fields are divided into strips and different types of crops are grown on alternative strips along contours or across the prevailing direction of winds. This breaks up the force of the wind.

**62. Mention any two man-made and two natural factors responsible for land degradation. [CBSE 2014]**

**Answer:** (i) Man-made: Deforestation, over- grazing, mining, quarrying.  
(ii) Natural: Water logging, wind, running water

**63. Name any four minerals in which the black soil is rich.**

**Answer:** (i) Calcium carbonate (ii) Magnesium  
(iii) Potash (iv) Lime

**64. What is leaching? Name the soils which develop due to leaching.**

**Answer:** Leaching is a process by which the nutrients in the soil are washed away by heavy rains.

Laterite soils develop due to leaching.

**65. Mention any four proper farming technique which can be helpful in conservation of soil.**

**Answer:** (a) Strip cropping  
(b) Shelter belt  
(c) Contour ploughing  
(d) Terracing

**66. State two disadvantages of the red soil.**

**Answer:** (i) The soil lacks in nitrogen, organic and phosphoric acid contents and is less fertile.

(ii) Red soils are porous in nature but not retentive to moisture.

**67. 'It is important to use the available land for various purposes with careful planning'. Give reason.**

**Answer:** Because it is an asset of a finite magnitude.

**68. Mention the various forces of nature which contribute to the formation of soil.**

**Answer:** Change in temperature, action of running water, wind and glaciers, activities of decomposers etc. contribute to the formation of soil.

Short Answer Type Questions

**1. What is a Resource? Give two examples.**

**Answer:** Everything available in our environment which can be used to satisfy our needs, provided, it is technologically accessible, economically feasible and culturally acceptable can be termed as Resource. Examples, coal, water, air, minerals, etc.

**2. What is the importance of natural resource? Why is it necessary to conserve them?**

**Answer:** Resources are important for the development of any country. For example, fossil fuels are essential to generate energy, mineral resources are important for industrial development, etc.

Necessary to conserve resources because:

(i) Their irrational consumption and over utilisation have led to socio-economic and environmental problems.

(ii) It takes million of years for the formation of natural resources.

(iii) Natural resources are available in fixed quantity and they are non – renewable.

**3. What are the ways to classify resources?**



- Answer:** (i) On the basis of origin – biotic and abiotic.  
(ii) On the basis of exhaustibility – renewable and non-renewable.  
(iii) On the basis of ownership-individual, community, national and international.  
(iv) On the basis of the state of development- potential, developed and stock.

**4. What is the role of humans in resource development ? [CBSE 2014]**

**Or**

**Explain the role of humans in resource development. [CBSE Sept. 2010, 2011],**

- Answer:** (i) Resources are function of human activities.  
(ii) Human beings interact with-nature through technology, and create institutions to accelerate their economic development.  
(iii) Human beings transfer materials available in our environment into resource, and use them.  
(iv) For example, river is a natural endowment and it becomes resource when its water is used for irrigation or power production.

**5. What are renewable resources? Give two examples.**

**Answer:** The resources which can be renewed or reproduced by physical, chemical or mechanical processes are known as renewable or replenishable resources. For example, solar and wind energy, water, forests and wildlife, etc. The renewable resource may further be divided into continuous or flow.

**6. What are non renewable resources? Give two examples.**

**Answer:** These occur over a very long geological time. These resources take millions of years in their formation. Some of the resources like metals are recyclable and some like fossil fuels cannot be recycled and get exhausted with their use. For example, coal, bauxite.

**7. What are individual resources? Give two examples.**

**Answer:** Resources which are owned by private individuals are known as individual resources. Plots, fields, house, car, book, etc. are some examples of individual resources.

**8. What are community owned resources? Give two examples.**

**Answer:** The resources which are accessible to all the members of the community are known as community resources. Village ponds, public parks, playgrounds, etc. are some examples of community resources.

**9. What are national resources? Give two examples.**

**Answer:** All the resources which are under the control of state or union government are known as national resources. All the resources within political boundaries are national resources because the government has the power to acquire even private property. For example, Indian railway, Bhakra dam.

**10. What are potential resources? Give two examples.**

**Answer:** Resources which are found in a region, but have not been utilised due to lack of capital or other reasons. For example, the western parts of India particularly Rajasthan and Gujarat have enormous potential for the development of wind and solar energy, but so far these have not been developed properly.

**11. What are developed resources? Give two examples.**

**Answer:** These are resources which have been surveyed and their quality and quantity have been determined for utilisation. The development of resources depends on technology and level of their feasibility. For example, India has a cumulative total of 2,47,847 million tones of coal resources.

**12. What is stock? Give two examples.**

**Answer:** These are material in the environment which have the potential to satisfy the human needs but could not be used as the human beings do not have the appropriate technology to convert them into usable form. For example, water (H<sub>2</sub>O) is a compound of two inflammable gases i.e., hydrogen and oxygen but human beings do not have the required technology to use them as a source of energy.

**13. What are reserves? Explain with examples.**

**Answer:** Reserves are the subset of the stock, which can be put into use with the help of existing technical 'know-how' but their use has not been started.

These can be used for meeting future requirements. River water can be used for generating hydroelectric power but presently, it is being utilised only to a limited extent. Thus, the water in the dams, forests etc. is a reserve which can be used in the future. ‘

**14. “Planning of resources is very important for a country like India”. Justify by giving three reasons.**

**Answer:** (i) India has enormous diversity in the availability of resources. There are many regions which are rich in certain type of resources but are deficient in some other resources.

(ii) The states of Jharkhand, Chhattisgarh and Madhya Pradesh are rich in minerals and coal deposits but lacks in infrastructural development.

(iii) The states like Punjab, Haryana and Uttar Pradesh are rich in soil but lacks minerals.

**15. ‘The availability of resources is the only condition for the development of any region’. What is your opinion on the statement? Explain.**

**Or**

**Mention any three necessary conditions for the development of resources.**

**Answer:** (i) Resources can contribute to development only when they are accompanied by appropriate technological development and institutional changes.

(ii) There is need for quality of human resources i.e., skilled workers who can convert natural resources into more useable form.

(iii) There is also a need for capital which is required to develop technology.

**16. Explain the relationship between nature, technology and institutions.**

**Answer:** Nature contains resources. These resources are converted into usable form with the help of technology. Human beings interact with nature through technology, and create institutions to accelerate their economic development.

**17. ‘India has enormous diversity in the availability of resources.’ Explain.**

**Or**

**“India is rich in certain types of resources but deficient in some other resources.” Support your answer with examples. [CBSE Sept. 2012, 2014]**

**Answer:** (i) The states of Jharkhand, Chhattisgarh and Madhya Pradesh are rich in mineral resources but lack industrialisation.

(ii) Arunachal Pradesh has an abundance of water resources, but lacks in infrastructural development. The state of Rajasthan is very well endowed with solar and wind energy but lacks in water resources. The cold desert area of Ladakh is relatively isolated from the rest of the country due to lack of means of transportation and communication.

(iii) Most of North-Eastern states are rich in natural vegetation but lacks in fertile soil.

**18. Study the following data carefully and answer the questions that follow:**

**LAND FEATURES OF INDIA**

**Land Features Area Covered (in percentage)**

**(i) Plains 43%**

**(ii) Mountains 30%**

**(iii) Plateaus 27%**

**Total 100%**

**(i) Name the land feature which occupies the highest surface area of India.**

**(ii) Give two advantages of the above land feature.**

**Answer:** (i) The plains (43%) occupy the highest surface area of India.

(ii) (a) The plains provide opportunity for crop farming.

(b) The plains have good climatic conditions for human habitation.

**19. How over-irrigation and mining lead to land degradation?**

**Or**

**How is over-irrigation responsible for land degradation? Which states of India face this problem? [CBSE 2013]**

**Answer:** Over-irrigation and mining lead to land degradation as :

(i) Over-irrigation is responsible for land degradation due to waterlogging which leads to increase in salinity and alkalinity in the soil. Water logging is a major issue in Punjab, Haryana, UR

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

**20. Explain the major factors which are responsible for the formation of soil. [CBSE 2009 (O), Sept. 2011]**

**Or**

**Explain any three factors responsible for the formation of soil. [CBSE 2013]**

**Answer:** (i) Relief, parent rock or bedrock, climate, vegetation and other forms of life and time are important factors in the formation of soil.

(ii) Various forces of nature such as change in temperature, actions of running water, wind and glaciers, activities of decomposers, etc. contribute to the formation of soil.

(iii) Chemical and organic changes which take place in the soil are equally important.

(iv) Soil also consists of organic (humus) and inorganic materials.

**21. Mention the criteria on the basis of which Indian soils can be classified.**

**Answer:** (i) Factors responsible for soil formation.

(ii) Colour

(iii) Thickness

(iv) Texture

(v) Age

(vi) Chemical and Physical properties.

**22. Explain the distribution of alluvial soils.**

**Answer:** (i) This is the most widely spread and important soil of India.

(ii) These soils also extend in Rajasthan and Gujarat through a narrow corridor.

(iii) Alluvial soil is also found in the eastern coastal plains particularly in the deltas of the Mahanadi, the Godavari, the Krishna and Kaveri rivers.

**23. With reference to alluvial soil answer the following questions-**

**(i) How is it classified on the basis of its age?**

**(ii) Alluvial soil as a whole is very fertile. Give reasons.**

**Answer:** (i) On the basis of age alluvial soil is classified as Bangar and Khadar.

(ii) Mostly these soils contain adequate proportion of potash, phosphoric acid and lime.

**24. Explain the distribution of black soil.**

**Answer:** (i) Black soil is typical of the Deccan trap region spread over northwest Deccan plateau.

(ii) They cover the plateau of Maharashtra, Saurashtra, Malwa, Madhya Pradesh and Chhattisgarh.

(iii) They are also found in the Godavari and Krishna valleys.

**25. Which soil is considered ideal for growing cotton? How is the soil formed?**

**Answer:** Black soil. These soils have been formed due to the weathering of the lava spread over large areas during volcanic activity in the Deccan Plateau and different climatic conditions.

**26. (i) Which soils develop on crystalline igneous rocks?**

**(ii) Why do the soils develop a reddish colour?**

**(iii) Name any two states where this soil is found.**

**Answer:** (i) Red soil

(ii) The soils develop a reddish colour due to diffusion of iron crystalline and metamorphic rocks.

(iii) Odisha and Chhattisgarh

**27. Mention the factors on which the land- use pattern of India depends upon. [CBSE Sept. 2012]**

**Answer:** The use of land is determined by physical as well as human factors.

(i) Physical factors: Topography, climate and soil types.

(ii) Human factors: Population density, technological capability, culture and traditions.

**28. (i) 'Humus content of the laterite soil is very low.' Explain by giving two reasons.**

**(ii) Mention any two crops associated with the soil.**

**Answer:** (i) (a) The soil is formed due to intense leaching. So the nutrients of the soil are washed away by heavy rains.

(b) The soil is formed in the regions of high temperature. So most of the microorganisms, particularly the decomposers, like bacteria, get destroyed.

(ii) Tea and Coffee.

**29. (i) 'The arid soil lacks humus and moisture.' Explain.  
(ii) Name any two states where this soil is formed.**

**Answer:** (i) The arid soil is found in dry climatic conditions. Due to dry climate and high temperature, evaporation is faster and the soil lacks humus and moisture.

(ii) Rajasthan and Gujarat

**30. What is soil erosion? Name any four states which have been affected by gully erosion.**

**Answer:** The removal of soil by the forces of nature, particularly wind and water is called soil erosion. Uttar Pradesh, Madhya Pradesh, Bihar and Rajasthan.

**31. How does the soil of the Ganga-Yamuna plain differ from that of central Maharashtra?**

**Answer:** The Ganga-Yamuna plain has alluvial soils, whereas the central Maharashtra has black soils. The alluvial soils are formed by the depositional work of rivers in the river valleys, flood plains and deltas. The black soils develop from volcanic rocks from where the lava flows.

**32. What are the causes of soil erosion in : (I) Shiwaliks or the Outer Himalayas.**

**(ii) North-Eastern parts of India.**

**(iii) Arid regions of India.**

**Answer:** (I) Shiwaliks or the Outer Himalayas :

Destruction of vegetation is the main cause of soil erosion in hilly areas because when vegetation is removed, the soil surface becomes loose, and is more easily removed by the running water.

(ii) North-Eastern parts of India : Heavy rainfall which leads to frequent floods is responsible for soil erosion.

(iii) Arid regions of India : In deserts and dry regions, where there is little or no vegetation, wind is the most powerful agent of soil erosion, blowing away fine particles of sand depositing them in other areas making both the areas unproductive.

**33. Which is the main cause of land degradation in Gujarat, Rajasthan and Madhya Pradesh? How can it be checked? Explain. [CBSE 2012]**

**Answer:** Large scale over-grazing has caused severe land degradation.

Measures to check :

- (i) Afforestation and proper management of grazing.
- (ii) Planting of shelter belts.
- (iii) Stabilisation of sand dunes by growing thorny bushes.
- (iv) Control on overgrazing.

Long Answer Type Questions

**1. What is resource planning? Mention the steps which are involved in resource planning. [CBSE 2009 (F); Sept. 2010, 14]**

**Or**

**Explain the three steps involved in the resource planning in India. [CBSE Sept. 20W]**

**Or**

**What are the three stages of resource planning in India?**

**Answer:** "Resource planning is a technique or skill of proper or judicious use of resources."

Resource planning is a complex process which involves :

- (i) Identification and inventory of resources across the regions of the country. This involves surveying, mapping, qualitative and quantitative estimation and measurement of the resources.
- (ii) Evolving a planning structure endowed with appropriate technology, skill and institutional set up for implementing resource development plans
- (iii) Matching the resource development plans with overall national development plans.

**2. Explain the classification of resources on the basis of exhaustibility. [CBSE 2009 (D), Sept. 2010, 2011]**

**Answer:** (i) Renewable resources: "Renewable resources are the natural resources which can be used again and again or can be reproduced by physical, mechanical and chemical processes." Solar energy, air, water and soil are some of the renewable resources of energy.

(ii) Non-renewable resources: "Non renewable resources are the natural resources that cannot be replaced at all or within a reasonable time." Fossil



fuels such as oil, gas and coal are examples of non renewable resources. These resources are accumulated over millions of years. They are considered to be non-renewable resources because once they are used up, they are gone forever.

**3. Explain the classification of resources on the basis of ownership. [CBSE 2009 (O), 2014]**

**Or**

**Explain what is meant by national resources and individual resources. [CBSE Sept. 2010, 2014]**

**Answer:** (a) Individual Resources: Resources which are owned by private individuals are known as individual resources. Plots, fields, houses, cars, books, etc., are some examples of individual resources.

(b) Community Owned Resources: The resources which are accessible to all the members of the community are known as community resources. Village ponds, public parks, playgrounds, etc., are some examples of community resources.

(c) National Resources: All the resources which are under the control of state or union government are known as national resources. All the resources within political boundaries are national resources because the government has the power to acquire even the private properties.

(d) International Resources: These resources are owned and regulated by international institutions. The oceanic resources beyond 200 km of the Exclusive Economic Zone belong to the open ocean, and no individual country can utilise these without the concurrence of international institutions. India has got the right to mine manganese nodules from the bed of the Indian Ocean from that area which lies beyond the Exclusive Economic Zone.

**4. Explain the classification of resources on the basis of the state of development. [CBSE 2008]**

**Or**

**Distinguish between stock resources and reserve resources. [CBSE Sept. 2010,12]**

**Answer:** (i) Potential Resources : Resources which are found in a region, but have not been utilised due to lack of capital or other reasons. For example: the western parts of India, particularly Rajasthan and Gujarat have enormous potential for the development of wind and solar energy, but so far, these have not been developed properly.

(ii) Developed Resources : These are resources which have been surveyed and their quality and quantity have been determined for utilisation. The development of resources depends on technology and the level of their feasibility. For example, India has a cumulative total of about 2,47,847 million tonnes of coal resources.

(iii) Stock : These are the materials in the environment which have the potential to satisfy the human needs but cannot be used as the human beings do not have the appropriate technology to convert them into usable form. For example, water (H<sub>2</sub>O) is a compound of two inflammable gases, i.e., hydrogen and oxygen, but human beings do not have the required technology to use them as a source of energy.

(iv) Reserves : These are the subset of the stock, which can be put into use with the existing technology, but their uses have been postponed keeping in mind the needs of the future generations. For example, India has sufficient amount of forests to fulfil the needs of the present generation, but they are being protected for the future generations.

**5. How is land a natural resource of utmost importance ? Explain with four facts. [CBSE 2008 (O), 2012, 2013]**

**Or**

**“Land is a natural resource of utmost importance.” Elaborate the statement with the help of suitable examples highlighting the value of land resource. [CBSE 2013]**

**Answer:** Land is an important natural resource, because :

- (i) All economic activities are performed on land.
- (ii) It supports natural vegetation and wildlife.
- (iii) Most of the minerals are formed in land.
- (iv) It is used for transport and communication system.

**6. Which is the most widely spread and important soil of India? State any six characteristics of this type of soil. [CBSE 2008 (F), Sept. 2010]**

**Or**

**Mention any four characteristics of alluvial soils.**

**Or**

**How are alluvial soils formed? How is Bangar different from Khadar? [CBSE 2012]**

**Answer:** Characteristics of the Alluvial soil are :

(i) Alluvial soils are transported soils. Most of the soils are derived from the sediments deposited by rivers as in the Indo-Gangetic plain. Thus, the parent material of these soils is of transported origin.

(ii) These soils consist of varying proportion of sand, silt and clay. In the upper course of the river, the soil is coarse. In the middle course, it is medium, and fine grained in the lower course.

(iii) Apart from the size of their grains or particles, soils are described according to their age as well. They are old alluvium and new alluvium. Locally, the old alluvium is called 'Bhangar' and the new alluvium is called 'Khadar'.

(iv) The old alluvium often contains 'kankar, nodules, with calcium carbonates in the sub-soil. The new alluvium is more fertile than the old alluvium.

**7. Which soil is called 'regur soil? Mention any four characteristics of this type of soil. [CBSE 2009 (F), Sept. 2010, 2012, 2013]**

**Answer:**

(i) These have been formed due to withering of lava.

(if) The black soils are made of extremely fine materials, i.e., clayey materials.

(iii) These soils are rich in soil nutrients such as calcium carbonate, magnesium carbonate, potash and lime.

(iv) These soils are generally poor in phosphoric content.

(v) The soil is well known for its capacity to hold moisture.

**8. How is red soil formed? Mention its three characteristics. [CBSE Sept. 2010]**

**Or**

**How does red soil develop? What makes it look red and yellow? [CBSE 2014]**

**Answer:** Formation : Most of the red soils have come into existence due to weathering of ancient crystalline igneous rocks. Characteristics/Features :  
(i) Soils are loamy in deep depressions and in uplands. They consist of loose gravels and highly coarse materials.  
(ii) The colour of these soils is generally red, often grading into brown, chocolate or yellow. The red colour is due to wide diffusion rather than high percentage of iron content. It looks yellow when it occurs in a hydrated form.  
(iii) Soils are deficient in phosphoric acid, organic matter and nitrogenous materials but are fairly rich in potash. But crops are cultivated with the use of fertilizers.

**9. Which geographical factors are responsible for the evolution of black soil? Why is it considered the most suitable for growing cotton? [CBSE 2012, 2013]**

**Answer:** (1) Climatic conditions like temperature, rainfall etc. along with present rock material are important factors for making of black soil. The parent rock is volcanic rock.

(2) It is ideal for growing cotton because:

(i) It has capacity to hold moisture.

(ii) They are rich in calcium carbonate, magnesium, potash and lime.

(iii) This soil is also known as black cotton soil,

(iv) They develop deep cracks during hot weather, which help in the proper aeration of the soil.

**10. How is mountain soil (forest soil) formed? Mention any four characteristics of forest soil. .**

**Answer:** Formation: The soils are formed due to mechanical weathering caused by snow, rain, temperature variation, etc. Characteristics/Features:

(i) These soils are heterogeneous in nature, and their character changes with mountainous environment and altitude.

(ii) The soils are very rich in humus, but are deficient in potash, phosphorus and lime.

(iii) The soils are especially suitable for plantation of tea, coffee, spices and tropical fruits.

(iv) The soil is loamy and silty in valley sides and coarse grained in the upper slopes. It is acidic with low humus content in the snow covered areas. It is fertile in the lower parts of the valleys.

**11. Mention any four features of the arid soils.**

**Or**

**Name the soil type which is widely found in Western Rajasthan. Explain two important characteristics of this soil type which make it unsuitable for cultivation. [CBSE 2012]**

**Answer:** Arid soil is widely found in Western Rajasthan.

- (i) The soil ranges red to brown in colour.
- (ii) The soils contain considerable amount of soluble salts.
- (iii) The soils contain a low percentage of organic matter due to dry climate and absence of vegetation.
- (iv) The soil is alkaline in nature as there is no rainfall to wash soluble salts.
- (v) The lower horizon of the soil is occupied by 'kankar' because of the increasing calcium content downwards. The 'kankar' layer formations in the bottom horizons restrict the infiltration of water.
- (vi) The soils are infertile but with irrigation and fertilizers, the drought resistant and salt tolerant dry crops such as barley, cotton, wheat, millets, maize, pulses, etc., are grown. (Any Four)

**12. Explain the formation and important features of the laterite soil. [CBSE 2013, 14]**

**Answer:** Formation: It develops in areas with high temperature and heavy rainfall. The laterite soil is a result of intense leaching owing to heavy tropical rains.

Features :

- (i) The soils are acidic in nature, coarser and crumbly in texture.
- (ii) Due to lack of nitrogen, potassium and organic elements, the laterite soils lack fertility, and are not suitable for cultivation. But when the soils are manured and irrigated, some crops can be cultivated.
- (iii) As the soils are indefinitely durable, so they provide valuable building materials.

**13. What is soil erosion? Explain the major types of soil erosions prevailing in India. [CBSE Sept. 2010]**

**Answer:** "Soil erosion is the removal of soil by the forces of nature like wind and water, more rapidly than the various soil forming processes can replace it." Generally, there is a balance between the soil forming process and the erosional process. The balance can be disturbed by natural or human factors.

Types of Soil Erosion :

(a) Water Erosion : Water is a powerful agent of soil erosion. Following are the major types of erosion caused by water.

(i) Sheet Erosion : When the top layer of the soil is removed over a large area by the running water, it is called as sheet erosion.

(ii) Rill Erosion : This is the second stage of sheet erosion. If erosion continues unchecked for a sufficient time, (rills) or small finger-shaped grooves which are a few centimetres in depth, may develop on the landscape. Over a period of time, the fine rills increase in number and also become deeper and wider, and resemble the twigs, branches and trunk of a tree. This is called as rill erosion.

(iii) Gully Erosion : This is the third stage of sheet erosion. With further erosion of the soil, the rills may deepen and become enlarged, and are ultimately turned into gullies. The main cause of gully erosion is the removal of vegetation, particularly of trees with their widespread binding roots. Gullies cut up agricultural land and the entire area may be turned into a bad land topography. Gully erosion is also responsible for the formation of ravines.

(b) Wind erosion : Wind is a powerful agent of erosion in arid and semi-arid lands with little rainfall. Wind can lift the valuable top soil from one area and deposits in another area. The wind erosion is very dangerous type of erosion because due to wind most of the deserts of the world are expanding.

**14. Give reasons :**

**(i) Alluvial soil can hold moisture, and is very fertile.**

**(ii) Black soil needs to be tilled after the first rain.**

**(iii) Red soil is ideal for dry farming.**

**(iv) The percentage of organic matter in desert soil is very low.**

**(v) Red soil is less fertile.**

**Answer:** (i) Because the alluvial soil is made up of fine particles. The soil is very fertile because it is rich in mineral nutrients like potash and lime.

(ii) The soil is sticky, and difficult to work unless tilled immediately after the first rain.

(iii) Because it does not require much moisture.

(iv) Because of the dry climate and absence of vegetation.

(v) Because it is deficient in phosphorus, nitrogen, lime and humus.

**15. Name two important crops associated with the following types of soil :**

- (a) Alluvial soil (b) Black soil  
(c) Desert soil (d) Laterite soil**

**Answer:** (a) Alluvial: Wheat and rice.

(b) Black: Cotton and sugarcane.

(c) Desert: Barley and ragi.

(d) Laterite: Coffee and tea.

**16. Explain the land-use pattern of India.**

**Answer:** (i) The net sown area in India has decreased from 45.26% to 43.41%. This means that more and more agricultural land is being shifted to other activities. This is not a healthy trend, and must be checked. The steps taken by government has resulted in increase of net sown area to 47% in 2005-06.

(ii) The pattern of the 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 the Andaman and Nicobar Islands.

(iii) The area under forests has increased from 18.11% in 1960-61 to 22.57% in 2000-03 and to 23% in 2005-06 yet it is far below than the scientific norms.

(iv) The land under permanent pasture is very low, i.e., only 3.45% (Fallen to 3%). This shows the tremendous pressure of livestock population on agricultural land. Cattle are reared mainly on the farm wastes, grain chaff and a few fodder crops.

(v) Area under fallow land has also decreased which shows, that subsistence agriculture is being replaced by commercial agriculture.

(vi) A part of the land is termed as waste land, and land put to other non-agricultural uses. Waste land includes rocky, arid and desert areas, and land put to other non- agricultural uses includes settlements, roads, railways, industries, etc.

**17. Explain any four proper fanning techniques which can be used for soil conservation.**

**Or**

**Suggest any three measures of soil conservation. [CBSE Sept. 2010, 2011]**

**Or**

**What is soil conservation? Explain any three methods of soil conservation suitable to Indian conditions. [CBSE 2013, 14]**

**Answer:** Soil conservation includes all those measures which help in protecting the soil from erosion or degradation.

(i) Crop rotation : If the same crop is sown in the same field, year after year, this consumes certain nutrients from the soil making it infertile. Crop rotation can check this type of erosion.

(ii) Settled agriculture : Checking and reducing shifting agriculture by persuading the tribal people to switch over to settled agriculture.

(iii) Terracing and contour bunding :

Terracing and contour bunding across the hill slopes is a very effective, and one of the oldest methods of soil conservation. Hill slope is cut into a number of terraces having horizontal top and steep slopes on the back and front. Contour bunding involves the construction of bank along the contour.

(iv) 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. This method is known as strip cropping.

(v) Shelter Belt : Planting lines of trees to create shelter also works in a similar way. Rows of such trees are called shelter belts. These shelter belts have contributed significantly to the stabilisation of sand dunes and in establishing the desert in western India.

HOTS Questions and Answers

**1. Do you think that resources are free gifts of nature as is assumed by many? Justify your answer with any three suitable arguments. [CBSE 2012]**

**Answer:** They are not free gifts of nature as :

(i) Resources are a function of human activities,

(ii) Human beings themselves are essential components of resources.



(iii) They transform material available in our environment into resources and use them.

For example river is a natural resource but river become a resource when its water is used for irrigation or power production.

## **2. What is the importance of natural resources? [CBSE 2014]**

**Answer:** (i) Resources are used to satisfy human wants.

(ii) Resources are base for economic development for example water, fossil fuel, solar energy is required for power production.

(iii) Resources are vital for human survival as well as maintaining the quality of life.

(iv) Land which is a natural resource support natural vegetation, wild life, human life and all economic activities.

(v) Water which is another natural resource is essential for human, plant and wild life.

## **3. "India has land under a variety of relief features." Justify. [CBSE 2014]**

**Or**

**What are the main advantages of India's land under a variety of relief features? [CBSE 2010, 2011]**

**Answer:** India has land under a variety of relief features, namely: mountains, plateaus, plains and islands.

(i) About 43 per cent of the land area is plain, which provides facilities for agriculture and industry.

(ii) Mountains account for 30 per cent of the total surface area. They ensure perennial flow of some rivers, provide facilities for tourism and ecological aspects.

(iii) About 27 per cent of the land area is plateau. It possesses reserves of minerals, fossil fuels and forests.

## **4. Discuss the problems which have been caused due to over-utilisation of resources. Suggest any two ways to save the resources.**

**Or**

**"Indiscriminate use of resources has led to numerous problems". Justify the statement in three points. [GBSE 2012, 14]**

**Answer:** (I) Depletion of resources : Over-utilisation has led to the depletion of the resources for meeting the greed of a few individuals. For example,

over-utilisation of petroleum products has led to a situation where most of the countries of the world are facing energy crisis.

(ii) Concentration of resources: This has divided the society into 'haves' and 'have nots' or the rich and the poor.

(iii) Global ecological crisis : Over utilisation of resources has led to the global ecological crisis such as global warming, depletion of ozone layer, pollution and land degradation.

Suggestions :

(i) Minimising wastage.

(ii) Use of renewable resources.

**5. "The earth has enough resources to meet the need of all but not enough to satisfy the greed of even one person." How is this statement relevant to the discussion of development? Discuss. [CBSE 2013]**

**Answer:** (i) Resources are vital for any developmental activity.

(ii) The irrational consumption and over utilization of resources may lead to socio economic and environmental problems.

(iii) Indiscriminate exploitation of resources led to global ecological crises such as global warming, environmental pollution, etc

(iv) The greedy and selfish individuals and exploitative nature of modern technology is the root cause for resource depletion at the global level.

(v) If the present trend of resource depletion by a few individuals and countries continues, the future of our planet is in danger.

(vi) There is need for sustainable development.

It means development should take place without damaging the environment and development in the present should not compromise with the need of future generations'.

**6. Why is there a need to conserve resources? What was Gandhiji's opinion regarding the conservation of resources? [CBSE Sept. 2012]**

Or

**Explain the importance of conservation of resources. [CBSE Sept. 2010, 2011,2014]**

Or

**Why is it essential to have resource planning? Give three reasons. [CBSE 2014]**

**Answer:** (i) Limited supply : Most of the resources have limited supply as compared to their demand for example supply of fossil fuels is limited.

(ii) Pollution and global warming :

Overutilisation of natural resources may lead to environmental pollution for example over use of fossil fuel is a major factor responsible for global warming.

(iii) Socio economic problem : The destruction of forests and wildlife is not just a biological issue. The biological loss is strongly correlated with the loss of cultural diversity. Such losses have increasingly marginalised and impoverished many indigenous and other forest-dependent communities, who directly depend on various components of the forest and wildlife for food, drink, medicine, culture, spirituality, etc. Within the poor, women are affected more than men. In many societies, women bear the major responsibility of collection of fuel, fodder, water and other basic subsistence needs. As these resources are depleted, the drudgery of women increases and sometimes they have to walk for more than 10 km to collect these resources. This causes serious health problems for women and negligence of home and children because of the increased hours of work, which often has serious social implications. Gandhiji was very apt in voicing his concern about resource conservation. He said, "There is enough for everybody's need, and not for anybody's greed. " According to him, they were the greedy and selfish individuals who were responsible for depletion of resources. He was in favour of producing for the masses than mass production.

## **7. Why is there a need for resource planning? What can happen if we don't follow the principle of resource planning?**

**Answer:** (i) Most of the resources are limited in supply.

(ii) Most of the resources are unevenly distributed over the country.

(iii) Overutilisation of the resources may lead to pollution of the environment.

(iv) There is a need to plan the human resources because only then we would be able to develop our natural resources.

Effects :

(i) Energy crisis

(ii) Global warming

## **8. Explain any four reasons responsible for land degradation in India.**

**Or**

**Explain any four human activities which are mainly responsible for land**

**degradation in India. Give any two suggestions to check land degradation. [CBSE 2014]**

**Answer:** (i) Mining : Mining is one of the major factors responsible for land degradation. In states like Jharkhand, Chhattisgarh, Madhya Pradesh and Odisha, deforestation due to mining have caused severe land degradation.

(ii) Overgrazing : During the long dry period, grass is grazed to the ground and torn out by the roots by animals. This leads to loosening of soil and it is easily washed away by rains. In states like Gujarat, Rajasthan, Madhya Pradesh, and Maharashtra overgrazing is one of the main reasons for land degradation.

(iii) Overirrigation : In the states of Punjab, Haryana, western Uttar Pradesh, overirrigation is responsible for land degradation due to waterlogging which leads to increase in salinity and alkalinity in the soil.

(iv) Processing of minerals : 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. In recent years, industrial effluents as waste have become a major source of land and water pollution in many parts of the country.

Suggestions :

(i) Plant more trees

(ii) We should not waste paper.

---