**Resources and Development**

**‘Resource’:**
Everything available in our environment which can be used to satisfy our needs, is called a resource. It should be technologically accessible, economically feasible and culturally acceptable. Only then, it can be termed as a ‘Resource’. Examples: minerals, forests, fossil fuels etc.

**Classification of Resources:**
(a) On the basis of origin: Biotic and Abiotic.
(b) On the basis of exhaustibility: Renewable and Non-renewable.
(c) On the basis of ownership: Individual (Personal), Community, National and International.
(d) On the basis of status and development: Potential, Developed, Reserve and Stock.

* Biotic Resources are obtained from the biosphere. They have life or are living resources, e.g., human beings, fisheries, forests, etc.
* Abiotic Resources include all non-living things, e.g., rocks and minerals.

**Renewable Resources:**
The resources which can be renewed or reproduced by physical, chemical and mechanical processes are known as renewable or replenishable resources, e.g., water, wildlife, forests, solar energy, wind energy, etc.

**Non-renewable Resources:**
The resources which once get exhausted, cannot be remade. They take a long geological period of time, i.e., millions of years in their formation, e.g., minerals, fossil’ fuels, etc.

1. **Individual resources:** Owned by individuals, e.g., own land, house;
2. **Community Owned Resources:** Resources which are accessible to all the members of the community, e.g., parks, playground;
3. **National Resources:** Resources which belong to the nation, e.g., roads, railways; and
4. **International resources:** Resources which no individual country can utilize, e.g., oceanic waters beyond 200 km.

 **Potential resources:** Resources found in a region but not in use, e.g., solar energy in Rajasthan, wind in Gujarat;

**Stock:** Resources available but do not have appropriate technology to access, e.g., lack of technical know how to use hydrogen and oxygen as source of energy; and

**Reserve:** Subset of stock. Can be used for future needs, e.g., water in the dams, forest resources.

**Sustainable development:**
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 future generation’.

**Land under important relief features in India:**
Plains-43%, Mountains-30%, Plateaus-27%

**Land Degradation:**
Continuous use of land over a long period of time without taking appropriate measures to conserve and manage it.

**Measures to solve problem of land degradation:**
Afforestation, proper management of grazing to control overgrazing planting of shelter belts of plants, stabilization of sand dunes by growing thorny bushes, control of mining activities, avoid over-irrigation and overuse of fertilizers and pesticides;

**Soil erosion:**
The denudation of the soil cover and subsequent washing down is soil erosion. Reasons for soil erosion include—
(a) Human activities like deforestation, over grazing construction, mining defective method of fanning etc.;
(b) Natural forces like wind, glacier and water flow.

**Types of erosion:**
(a) Gully erosion. The running water cuts through the clayey soils and makes deep channels known as gullies. This makes the land bad land and in the Chambal basin such land is known as ravines;
(b) Sheet erosion. When top soil over large area is washed away it is known as sheet erosion.

**Methods to prevent soil erosion in hilly area:**
Ploughing along the contour lines-contour ploughing; terrace cultivation; strip farming and shelter belts.

**Soils and its types:**

* **Alluvial soils:** Entire northern plains are made of alluvial soil. Also found in the eastern coastal plains particularly in the deltas of the Mahanadi, the Godavari, the Krishna and the Kaveri rivers. Fertile soil therefore, fit for agriculture purpose. Regions of alluvial soils are intensively cultivated and densely populated. Rich in potash, phosphoric acid and lime which are ideal for the growth of sugarcane, paddy, wheat and other cereal and pulse crops.
* **Black soil:** Black in colour and are also known as regur soils. Ideal for growing cotton and is also known as black cotton soil. Found in the plateaus of Maharashtra, Saurashtra, Malwa, Madhya Pradesh and Chhattisgarh also along the Godavari and the Krishna valleys. Made up of extremely fine, i.e., clayey material. Well-known for their capacity to hold moisture. Rich in calcium carbonate, magnesium, potash and lime.
* **Red and yellow soils:** Found in the areas of low rainfall in the eastern and southern parts of the Deccan plateau. Also found in parts of Odisha, Chhattisgarh, southern parts of the middle Ganga plain and along the piedmont zone of the Western Ghats. Develop a reddish colour due to diffusion of iron in crystalline and metamorphic rocks.
* **Laterite soils:** Develops in areas with high temperature and heavy rainfall. Found in Karnataka, Kerala, Tamil Nadu, Madhya Pradesh, and the hilly areas of Odisha and Assam. Suitable for cultivation with adequate doses of manures and fertilizers. Low Humus content because decomposers, like bacteria, get destroyed due to high temperature.
* **Arid soils:** Found in the western parts of Rajasthan. After proper irrigation these soils become cultivable. Lacks humus and moisture because dry climate, high temperature make evaporation faster. Salt content is very high and common salt is obtained by evaporating the water.
* **Forest soils:** Found in the hilly and mountainous areas where sufficient rain forests are available. Feature differs based on location. Loamy and silty in valley sides and coarse grained in the upper slopes. Sil in the lower parts of the valleys particularly on the river terraces and alluvial fans are fertile

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**Multiple choice questions**

(i) Which one of the following types of resources is iron ore?
a. Renewable
b. Biotic.
c. Flow
d. Non-renewable

(ii) Under which of the following type of resource can tidal energy be put?
a. Replenishable
b. Abiotic
c. Human-made.
d. Non-recyclable

(iii)Which one of the following is the main cause of land degradation in
Punjab?
a. Intense cultivation
b. Deforestation
c. Over irrigation
d. Overgrazing

(iv) In which one of the following states is the terrace cultivation practiced?
a. Punjab
b. Haryana
c. Plains of Uttar Pradesh
d. Uttaranchal

(v) In which one of the following states is the black soil found?
a. J & K
b. Gujarat
c. Rajasthan
d. Jharkhand

Answers:
(i) (d) Non-renewable; (ii) (a) Replenishable; (iii) (c) Over irrigation; (iv) (d) Uttarakhand ; (v) (b) Gujarat

**Answer the following questions in about 30 words**

1. **Name three states having black soil and the crop which is mainly grown in it.**

The Black soils are black in colour. These are also known as regur soils. This soil is typical of the Deccan trap (Basalt) region spread over northwest Deccan Plateau. They cover the plateaus of Maharashtra, Saurashtra, Malwa, Madhya Pradesh, and Chhattisgarh and extend in a south-east direction along the Godavari and the Krishna valleys. Black soil is ideal for growing cotton.

1. **What type of soil is found in the river deltas of the Eastern Coast? Give three main features of this type of soil.**

Alluvial soil is found in the eastern coastal plan is particularly in the deltas of the Mahanadi, the Godavari, the Krishna and the Kaveri rivers.
Three main features of this type of soil are as follows:

1. The alluvial soil consists of various proportions of sand, silt, and clay.
2. These soils are very fertile. Due to its high fertility, regions of alluvial soils are intensively cultivated and densely populated.
3. These soils contain an adequate proportion of potash, phosphoric acid, and lime which are ideal for the growth of sugarcane, paddy, wheat, and other cereal and pulse crops
4. **What steps can be taken to control soil erosion in the hilly areas?**

The soil erosion in the hilly areas can be controlled by taking steps as mentioned below:

* **Contour ploughing:** Ploughing along the contour lines can decelerate the flow of water down the slopes. This is called contour ploughing.
* **Terrace cultivation:** Steps can be cut out on the slopes making terraces. Terrace cultivation restricts erosion.
* **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 is strip cropping
1. **What are biotic and abiotic resources? Give some examples**

**Biotic resources** are obtained from the biosphere and have life such as human beings, flora, and fauna, fisheries, livestock, e.g., forests and animals are biotic resources.

**Abiotic resources** consist of all those things which are composed of non-living things. e.g., rocks and metals. Land, water, and soil are also abiotic resources

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**Answer the following questions in about 120 words**

* 1. **Explain land use pattern in India and why has the land under forest not increased much since 1960-61?**
* Land resources in India are primarily divided into agricultural land, forest land, pasture and grazing land, and wasteland. Wasteland includes rocky, arid and desert areas and land used for non-agricultural purposes like housing, roads, industry, etc.
* According to recent data available, the percentage of net sown area (NSA) in India is about 54% of the total reporting area. 22.5% is covered by forests, and 3.45% is used for grazing. The rest is a wasteland, with traces of miscellaneous cultivation.
* Improper use of forest land has led to land degradation and made conservation of forests difficult. Human activities like deforestation, overgrazing, mining, quarrying, etc have contributed to the slow growth rate of forests. Thus, land under forest has increased by only about 4% since 1960-61.

**2. How have technical and economic development led to more consumption of resources?**

The following factors have been responsible for technical and economic development leading to overconsumption of resources.

* In colonial times, imperial powers used their technological and economic superiority to establish control over other countries and thereby gain access to the latter’s resources. One country’s resources were accessible to the citizens of its colonial ruler too, leading to increased consumption. Technical progress also results in inefficient machinery, increased production, and greater consumption of resources.
* Technological development and economic progress have led to populations increasing due to low mortality at all ages. With new developments in medicine and health care, fewer people die due to accidents, diseases, childbirth, etc. This too has contributed to higher consumption of resources

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* 1. Resources which are surveyed and their quantity and quality have been determined for utilisation is known as
		1. Potential resources
		2. Stock
		3. Developed resources
		4. Reserves

2. Which one of the following soil is ideal for growing cotton?

 (a) Regur soil
(b) Laterite soil
(c) Desert soil
(d) Mountainous soil

3. In which of the following states is overgrazing responsible for land degradation?

(a) Jharkhand and Orissa
(b) Madhya Pradesh and Rajasthan
(c) Punjab and Haryana
(d) Kerala and Tamil Nadu

4. Which one of the following statements is true about the term resources? **[CBSE (CCE) 2011]**
(a) Resources are free gifts of nature.
(b) They are the functions of human activities.
(c) All those things which are found in nature.
(d) Things which cannot be used to fulfill our needs.

5. Which one of the following types of the resource is iron ore?
(a) Renewable
(b) Biotic
(c) Flow
(d) Non-renewable

6. Under which of the following types of resource the tidal energy can be put?
(a) Replenishable
(b) Human-made
(c) Abiotic
(d) Non-recyclable

7. Soil formed by intense leaching is
(a) Alluvial soil
(b) Red soil
(c) Laterite soil
(d) Desert

8. Fallow land refers to
(a) land not under cultivation.
(b) land with many gullies.
(c) a fertile land.
(d) cultivable land not cultivated for a season to regain its fertility.

9. Method of growing long strips of grass between the crops refers to
(a) Contour ploughing
(b) Terrace farming
(c) Strip cropping
(d) Crop rotation

10. Resources which are found in a region, but have not been utilised.
(a) Renewable
(b) Developed
(c) National
(d) Potential

11. Which of the following factors involves the transformation of things into a resource ?
(i) Physical environment
(ii) Technology
(iii) Human beings
(iv) Institutions
(a) (i) and (ii)
(b) (ii) and (iii)
(c) (i) and (iv)
(d) All of above

12. Renewable resources are those
(a) which cannot be renewed
(b) which are accessible
(c) which are developed
(d) which are renewed by physical, chemical or mechanical processes.

13. Which one of the following is not a community resource ?
(a) Public parks
(b) A library
(c) A car
(d) A community hall

14. Territorial waters of India extends to
(a) 10 Nautical miles
(b) 15 Nautical miles
(c) 12 Nautical miles
(d) 1900 kilometres

15. Find out which one of the following is a stock?
(a) Biofuels
(b) Coal
(c) Solar energy
(d) Hydro-electricity

16. The first International Earth Summit was held in
(a) Geneva
(b) New York
(c) Japan
(d) Rio de Janeiro

17.**“There is enough for everybody’s need but not for anybody’s greed”**. Who said this ?
(a) Jawahar Lai Nehru
(b) Atal Bihari Vajpai
(c) M. K. Gandhi
(d) Sunder Lai Bhauguna

18. The area brought under cultivation in a year is called …………….
(a) Fallow land
(b) Cultivable
(c) Net sown area
(d) Gross sown area

19. I am the most widespread soil, covering the Northern Plains and Eastern Coastal Plains-who am I ?
(a) Black soil
(b) Forest soil
(c) Red soil
(d) Alluvial soil

20. Resources which are non-renewable but can be recycled are called
(a) Renewable resources
(b) Non-renewable resources
(c) Recyclable resources
(d) Biotic resources

21. The most widespread relief feature of India is
(a) Mountains
(b) Forests
(c) Plains
(d) Plateaus

22. The current net sown area of India in 2002-03 is
(a) 45 percent
(b) 43.4 percent
(c) 50 percent
(d) 48 percent

23. The state having maximum net sown area in India is ……………
(a) Jammu and Kashmir
(b) Uttar Pradesh
(c) Tamil Nadu
(d) Punjab

24. Land left without cultivation for one or less than one agricultural year is called
(a) Culturable waste land
(b) Current fallow land
(c) Waste land
(d) None of the above

25. The present per cent of area under forests is (2002 – 03)
(a) 18 percent
(b) 22.57 percent
(c) 19 percent
(d) 11 percent

26. The factor responsible for maximum land degradation is ………………
(a) Human activities
(b) Wind
(c) Salinity
(d) Soil erosion

27. Which agent is responsible for maximum land degradation ?
(a) Wind
(b) Water
(c) Glaciers
(d) Overgrazing

28. Soil is formed by the process of
(a) Denudation
(b) Gradation
(c) Weathering
(d) Erosion

29. Supply a technical term for the dead and decomposed material found on the top soil.
(a) Bed rock
(b) Fossils
(c) Humidity
(d) Humus

30. The old alluvial soil is known as ………………
(a) Bangar
(b) Bhabbar
(c) Khadar
(d) Regur

31. Which of the following statement(s) is true for black soil ?
(i) It has larger proportion of clay.
(ii) It can retain moisture for a long time.
(iii) It develops cracks during summer which helps in aeration.
(iv) Cotton grows best in this soil.
(a) (i) and (ii)
(b) (iii) and (iv)
(c) (i) and (iv)
(d) All of the above

32. Red colour of soil is due to
(a) it is rich in humus.
(b) it is rich in iron compounds.
(c) it is derived from volcanic origin.
(d) it is rich in potash.

33. The denudation of the soil cover and washing down of soil by various agents are known as ………………
(a) Weathering
(b) Gradation
(c) Soil erosion
(d) Soil conservation

34. The land consisting of many gullies and ravines are called ……………….
(a) Gully erosion
(b) Bed rock
(c) V shaped valleys
(d) Bad land

35. Terrace cultivation can be used to control soil erosion in
(a) Desert regions
(b) Hill slopes
(c) Valleys
(d) Plains

36.Strip cropping refers to
(a) growing of crops in long strips.
(b) growing of trees in long rows.
(c) growing of strips of grass in between the crops.
(d) ploughing along the contour lines.

37. Erosion of the top soil when water flows as a sheet over large areas down the slope is called
(a) Gully erosion
(b) Badlands
(c) Soil erosion
(d) Sheet erosion

38. Which one of the following statements is correct as regards to international resources ?
(a) Resources which are regulated by international institutions.
(b) Resources which lie beyond the territorial waters.
(c) Resources which are found along the international frontier.
(d) Resources which are not yet developed.

39. Which one of the following methods is ideal for controlling land degradation in coastal areas and in deserts ?
(a) Strip cropping
(b) Contour ploughing
(c) Planting of shelter belts
(d) Plugging of gullies

40. Which type of soil is suitable for the growth of cashew nut ?
(a) Alluvial soil
(b) Black soil
(c) Red soil
(d) Red laterite soil

41. Arid soils are less fertile as
(i) it lacks humus and moisture
(ii) it has high salt content
(iii) it is sandy in nature
(iv) it is rich in Iron
(a) (i) and (ii)
(b) (ii) and (iii)
(c) (iii) and (iv)
(d) (i) and (iii)

42. Ploughing along the contour lines can
(a) accelerate the flow of water.
(b) decelerate the flow of water.
(c) accelerate the force of winds.
(d) decelerate the force of winds.

43. Bad lands or ravines are found in
(a) Chenab basin
(b) Chambal basin
(c) Ganga basin
(d) Godavari basin

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* 1. **What was Agenda 21 ?**

**Agenda 21** was the declaration signed by world leaders in 1992 at the United NationsConference on Environment and Development (UNCED), which aimed at achieving globalsustainable development. It is an agenda to fight environmental damage, poverty, disease through global cooperationon common interests, mutual needs and shared responsibilities. One major objective of the Agenda 21 was that every local government should draw its own local Agenda 21.

* 1. **Explain the types of soil**

**(i) Alluvial soil**

a) Widely spread in north Indian plains, alluvial soil as a whole is very fertile.

b) It is classified as: Khadar (new alluvial) and Bangar (old alluvial).

c) This soil contains adequate proportion of potash, phosphoric acid and lime.

d) This soil is ideal for the growth of sugarcane, paddy, wheat and other cereal and pulse crops.

**(ii) Black soil**

a) Also called regur soil, this soil is black in colour.

b) This soil is ideal for growing cotton and also known as black cotton soil.

c) This soil is found in the plateaus of Maharashtra, Saurashtra, Malwa, Madhya Pradesh and Chhattisgarh and extend in the south-east direction along the Godavari and the Krishna valleys.

d) This soil is rich in soil nutrients, such as calcium carbonate, magnesium, potash and lime, but poor in phosphorus contents.

e) The black soil is made up of extremely fine i.e., clayey material. It is well-known for their capacity to hold moisture.

**(iii) Red and yellow soil**

a) This soil develops in areas of low rainfall or crystalline igneous rocks.

b) It is found in Odisha, Chhattisgarh and the piedmont zone of the Western Ghats.

c) Due to the diffusion of iron in crystalline and metamorphic rocks, its colour becomes reddish.

**(iv) Laterite soil**

a) This soil develops in areas of high temperature and heavy rainfall.

b) Humus content in the soil is low.

c) It is mainly found in Karnataka, Kerala, Tamil Nadu, Madhya Pradesh and hilly areas of Assam and Odisha.

d) It is good for tea, coffee, cashew nut, etc.

**(v) Arid soils**

 a) This soil is generally sandy in texture and saline in nature.

 b) This soil lacks in humus and moisture.

 c) This soil is found in Western Rajasthan, Punjab and Haryana.

 d) The lower horizons of the soil are occupied by Kankar.

**(vi) Forest soils**

a) This soil is found in hilly and mountainous regions.

b) This soil is loamy and silty in valley sides, while coarse grained in the in the upper slopes.

* 1. **Explain soil erosion and methods of soil conservation**

The removal of top fertile soil cover due to various reasons is called **soil erosion**. The processes of soil formation and erosion go simultaneously and generally there is a balance between the two. But sometimes, this balance is disturbed due to human activities. Natural forces like wind, glacier and water lead to soil erosion. Soil erosion is also caused due to defective methods of farming.

Measures for soil conservation are Contour ploughing, Terrace farming, strip cropping, Shelter belts of trees, Plugging of gullies, Afforestation, Control of mining activities.

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**Short Answer Type Question [3 Marks]**

**Question 1.**Examine the three major problems created as a result of indiscriminate utilization
of natural resources.
**Answer:**The following are the three major problems created as a result of indiscriminate utilization of natural resources.

* Depletion of resources at a faster rate.
* Accumulation of resources in the hands of few creating a wide gap between the haves (rich) and have nots (poor).
* Increase in global crises like ozone layer depletion, global warming, pollution
and land degradation.

**2015**

**Short Answer Type Question [3 Marks]**

**Question 2.**
Mention any three features of arid soil.
**Answer:**
**The following are the three features of arid soils.**

* The colour of the arid soil ranges from red to brown.
* Arid soils are generally sandy in texture and saline in nature.
* The soils lack humus and moisture because of dry climate, high|emperature and fast evaporation.
* The lower parts of the soils are occupied by kankar because of high calcium content. It restricts the infiltration of water in lower layers.(Any Three)

**Long Answer Type Question [5 Marks]**

**Question 3.**
What is regur soil? Write its two features. Mention two regions where they are found. **Answer:**
**Regur soil is the other name of black soil. The following are the two features of regur soil.**

* The regur soils are made up of clayey material. They can hold moisture and are rich in soil nutrients such as calcium carbonate, magnesium, potash and lime.
* They develop deep cracks during hot weather. When the soils are wet, they are very sticky and difficult to work on unless tilled immediately.
* The regur soils are found in the Deccan trap region, which is spread over north-west Deccan plateau. There soils are also found in the plateaus of Maharashtra, Saurashtra, Malwa, Madhya Pradesh, Chhattisgarh and along the Godavari and Krishna Valleys.

**2014**

**Short Answer Type Questions [3 Marks]**

**Question 4.**
“Indiscriminate use of natural resources has led to numerous problems.” Justify
the statement.
**Answer:**
**Indiscriminate use of natural resources has led to numerous problems. The following points justify the statement.**

* Human activities, like cutting and felling of trees, and lopping of trees, have led to destruction of forests. Such losses have increasingly marginalised and impoverished many communities, who depend upon forests for food medicine, etc.
* Some human activities, such as deforestation, overgrazing, mining and quarrying, have contributed to land degradation.
* Water resources have been polluted by domestic and industrial wastes, chemicals, pesticides and fertilizers used in agriculture, thus making it unfit for human and as well as animals’ consumption.

**Question 5.**
How can you contribute to minimize the pollution? Explain.
**Answer:**
**We can contribute to minimizing pollution by**

* creating awareness about not burning fallen leaves or garbage in the parks or on the roads.
* requesting our parents and the people in the neighbourhood not to dump garbage in the ponds, rivers and other waterbodies, especially, while performing rituals.
* not polluting the water storage tanks at home

**Question 6.**
“Land is a natural resource of utmost importance.” Justify the statement with appropriate arguments.

**Answer:**
Land is a natural resource of utmost importance. It supports natural vegetation, wildlife, human life and economic activities like agriculture, mining, transport and communication system. 95 per cent of our basic needs for food, shelter and clothing are obtained from land. Therefore, it is very important to use the available land for various purposes with careful planning, otherwise we will be responsible for the adverse consequences.

**Question 7.**
Name the soil type which is widely found in western Rajasthan. Explain two important characteristics of this type of soil type which make it unsuitable for cultivation.
**Answer:**
**Arid soil is largely found in Western Rajasthan. The following are the two characteristics which make it unsuitable for cultivation.**

* Arid soil is generally sandy in texture and saline in nature. The lower layers are occupied by Kankar. It restricts the filtration of water.
* Due to dry climate and high temperature, evaporation is faster and the soil lacks humus and moisture

**Question 8.**
Mention any three features of arid soil.
**Answer:**
**The colour of the arid soil ranges from red to brown.**

* Arid soils are generally sandy in texture and saline in nature.
* The soils lack humus and moisture because of dry climate, high|emperature and fast evaporation.

**Question 10.**
“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 three examples.
**Answer:**
India is a vast country. It has fertile plains and high mountains, which are a source of perennial rivers.
It also has plateaus, which are a rich source of minerals, fossil fuels and forests. However some regions are rich in certain types of resources and deficient in others, like the following.

* The cold desert of ladakh has very rich cultural heritage but it is deficient in water, infrastructure and some vital minerals.
* Arunachal Pradesh has abundant water resources but lacks in infrastructure development, as it is a mountainous state.
* The state of Rajasthan is well endowed with wind and solar energy but lacks

**2013**

**Short Answer Type Questions [3 Marks]**

**Question 11.**
“33 per cent area should be under forests.” Justify the statement highlighting the environmental values of forests.
**Answer:**
According to the international norms, the forest cover in a country should be 33 per cent of the total geographical area. However the forest cover in India is estimated at 637,293 sq. km, which is 19.39 per cent of the total geographical area.

* The following points sum up of the environmental values of forests.
If a country does not have 33 per cent geographical area under forest it may lead to poor quality of support system— water, air and soil.
* Forests preserve the genetic diversity of plants and animals.
* The forest ecosystem is the storehouse of valuable forest products, minerals and other resources.

**Question 12.**
Name the soil type which is widely found in western Rajasthan. Explain two important characteristics of this type of soil which make it unsuitable for cultivation.
**Answer:**
Arid soil is largely found in Western Rajasthan. The following are the two characteristics which make it unsuitable for cultivation.

* Arid soil is generally sandy in texture and saline in nature. The lower layers are occupied by Kankar. It restricts the filtration of water.
* Due to dry climate and high temperature, evaporation is faster and the soil lacks humus and moisture.

**2012**

**Short Answer Type Questions [3 Marks]**

**Question 13.**
Mention any two human activities which are responsible for the process of soil erosion. Explain the two types of soil erosion mostly observed in India.
**Answer:**
Two human activities which are responsible for the process of soil erosion are deforestation, overgrazing, construction and mining. (any two)
**The following are the two types of soil erosion mostly observed in India.**

* **Sheet erosion:** It is the result of excessive flowing of water resulting in the removal of the topmost layer of soil.
* bIt is the result of accumulation of runoff water which then rapidly flows into narrow channels during or after heavy rainfall or melting of show, considerably removing the soil cover.

**Question 14.**
Describe any three measures of controlling land degradation.
**Answer:**
**Measures to solve the problem of land degradation in India are as follows.**

* Afforestation and proper management grazing lands
* Planting of shelter belts for stabilizing sand dunes
* Proper management of wastelands
* Control on mining activities
* Proper discharge of industrial effluents and wastes after treatment
* Adopting effective ploughing techniques

**Question 15.**
“Indiscriminate use of resources has led to numerous problems.” Justify the statement.
**Answer:**
**Indiscriminate use of natural resources has led to numerous problems. The following points justify the statement.**

* Human activities, like cutting and felling of trees, and lopping of trees, have led to destruction of forests. Such losses have increasingly marginalised and impoverished many communities, who depend upon forests for food medicine, etc.
* Some human activities, such as deforestation, overgrazing, mining and quarrying, have contributed to land degradation.
* Water resources have been polluted by domestic and industrial wastes, chemicals, pesticides and fertilizers used in agriculture, thus making it unfit for human and as well as animals’ consumption.

**Long Answer Type Questions [5 Marks]**

**Question 16.**
Mention three physical factors as well as three human factors which determine the use of land in India.
**Answer:**
**Three physical factors determining the use of land in India are the following,**

1. topography
2. climate
3. soil type

**Three human factors determining the land use in India are:**

1. population density.
2. technological capability.
3. culture and traditions.

**Question 17.**
Suggest any six measures to solve the problem of land degradation in India.
**Answer:**
Measures to solve the problem of land degradation in India are as follows.

* Afforestation and proper management grazing lands
* Planting of shelter belts for stabilizing sand dunes
* Proper management of wastelands
* Control on mining activities
* Proper discharge of industrial effluents and wastes after treatment
* Adopting effective ploughing techniques

**Question 18.**
“Indiscriminate use of resources has led to numerous problems.” Justify the statement.
**Answer:**
**Indiscriminate use of natural resources has led to numerous problems. The following points justify the statement.**

* Human activities, like cutting and felling of trees, and lopping of trees, have led to destruction of forests. Such losses have increasingly marginalised and impoverished many communities, who depend upon forests for food medicine, etc.
* Some human activities, such as deforestation, overgrazing, mining and quarrying, have contributed to land degradation.
* Water resources have been polluted by domestic and industrial wastes, chemicals, pesticides and fertilizers used in agriculture, thus making it unfit for human and as well as animals’ consumption.

**Question 19.**
Explain the types of resources on the basis of exhaustibility.
**Answer:**
**On the basis of exhaustibility, the resources can be classified into the following two categories.**

1. **Renewable resources:** These are the resources that can be reproduced by physical, chemical or mechanical processes. For example, solar, tidal and wind energy.
2. **Non-renewable resources:** These resources occur over a very long geological time, taking millions of years in their formation. They get exhausted with their use. For example, minerals, coal, etc.

**Question 20.**
Explain the importance of conservation of resources.
**Answer:**
Resources are essential for all kinds of developmental activities. But indiscriminate use of resources and overuse of resources may lead to socio-economic and environmental problems. To overcome these problems, resource conservation at various levels is important.
For example, Gandhiji rightly said, “There is enough for everybody’s need and not for anybody’s greed”.
For the first time, conservation of resources had been advocated by the Club of Rome at the international level in a more systematic way in 1968. Another significant contribution was made at the Earth Summit at Rio de Janeiro, Brazil in 1992.

**Question 21.**
21. Explain the role of humans in resource development.
**Answer:**
The process of transformation of things into resource involves an inter-dependent relationship between nature, technology and institutions.
Human beings interact with nature through technology and create institutions to accelerate the pace of economic development. Human beings are essential components of resources as they transform materials in the environment into resources and use them.

**Question 22.**
Distinguish between national and international resources by giving three points.
**Answer:**
**The following are the differences between national and international resources.**


**Very Short Answer Type Questions [1 Mark]**

**Question 23.**
What is bangar?
**Answer:**
According to its age, alluvial soil is classified as khadar (new alluvial) and bangar
(old alluvium). Bangar has high concentration of hanker nodules.

**Question 24.**
What is the most widely spread and important soil in India?
**Answer:**
Alluvial soil is the most widely spread and important soil in India.

**Question 25.**
Classify resources into two groups on the basis of their origin.
**Answer:**
On the basis of their origin, resources can be classified as biotic and abiotic.

**Question 26.**
Classify resources into two groups on the basis of their exhaustibility
**Answer:**
On the basis of exhaustibility, resources can be classified as renewable and
non-renewable.

**Question 27.**
Give two examples of biotic resources.
**Answer:**
Flora, fauna, fisheries and livestock are examples of biotic resources, (any two)

**Long Answer Type Questions [5 Marks]**

**Question 28.**
What are the reasons for land degradation? Describe briefly any four measures to conserve land from degradation.
**Answer:**
**At present there are about 130 million hectares of degraded land in India. It has mainly been due to the following reasons.**

* Human activities like deforestation, mining, quarrying, overgrazing are mainly responsible for land degradation.
* In states like Chhatisgarh, Madhya Pradesh and Odisha deforestation due to mining has caused severe degradation. In Madhya Pradesh, Rajasthan, Gujarat and Maharashtra, overgrazing is one of the main reasons for land degradation.
* Industrial effluents have become a major source of land and water degradation in many parts of the country.
* Over-irrigation in the states of Punjab, Haryana and western Uttar Pradesh, has led to waterlogging and increased alkalinity and salinity in the soil.

**The following are the four measures to conserve land from degradation.**

* Afforestation and management of grazing can solve the problem to some extent.
* Planting of shelter belts of trees and growing of thorny bushes can stabilize sand dunes and check land degradation.
* Control over mining activities can also contribute to it.
* Proper discharge of industrial effluents can be done by grinding, sedimentation and flocculation.

**Short Answer Type Question [3 Marks]**

**Question 29.**
Give the importance of soil. Explain three factors responsible for soil formation.
**Answer:**
Soil is the most important renewable natural resource. Plants grow in the soil. It also supports different types of living organisms on earth.
**The three factors responsible for soil formation are as follows.**

1. Relief, parent rock, climate, vegetation and other forms of life and time are important factors in the formation of soil.
2. Forces of nature like running water, wind, glaciers, temperature and decomposers help in the formation of soil.
3. Chemical and organic (humus) changes are also important factors in the formation of soil

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