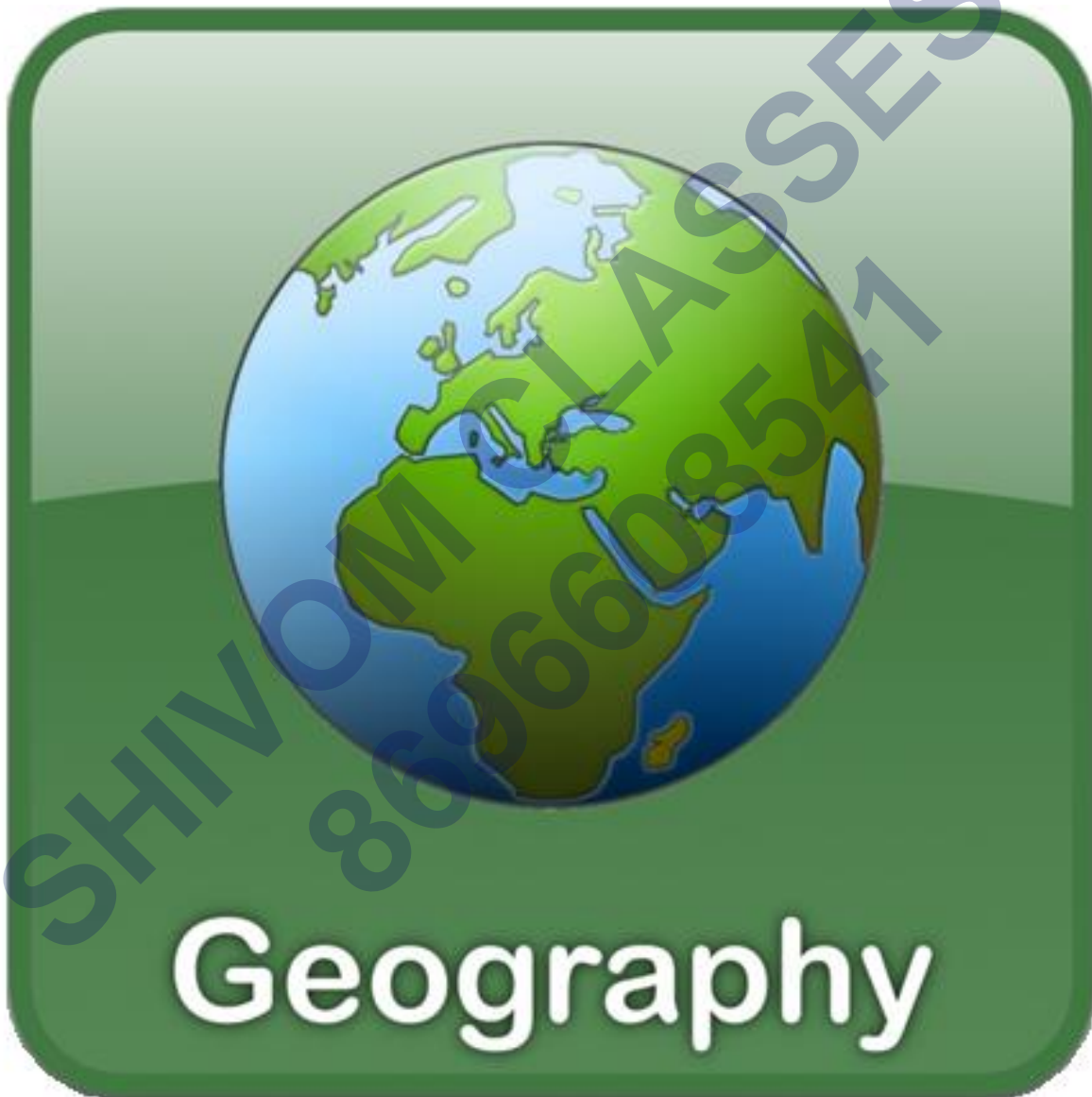


# GEOGRAPHY

## Chapter 1: Resources



## Resources

### Resources

Look and see the beautiful world around you. The flowers blooming in the garden, the bees and butterflies humming on them, the carpet of grass, the soft breeze, the warmth of the Sun, the flowing streams, the snow-covered mountain tops, the moonlit night, the chirping birds in their nests, and the blue sky. Nature's gifts are many. Some of the things that nature provides us are essential for our survival on the earth while some others satisfy our wants.

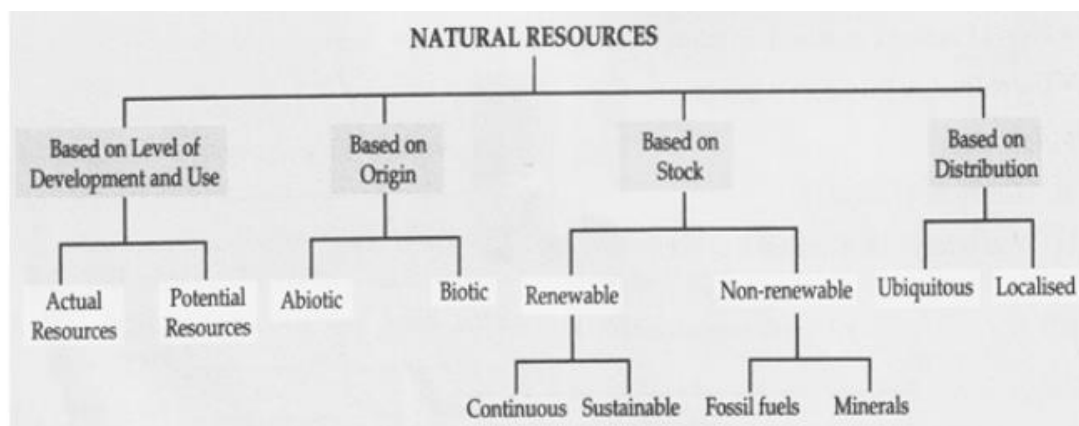
Since time immemorial, humans have struggled hard and extracted materials from nature which could be processed into products. With the passage of time, humans have made unbelievable progress on the technological and the economic front. These developments have raised their standard of living. All this has been possible due to the availability of various resources.

### WHAT ARE RESOURCES?

Resources can be defined as all those features of the environment, which help us to produce things that satisfy our needs and are finally used by us. The term resources usually refer to natural substances which occur in the air, water or on the land. These natural resources include raw materials (such as, fuels and minerals), rain, wind, sunlight, soil and vegetation. Sometimes, we widen the scope of this term and include human resource as well. The human resources include labour and human skills. In this way, natural resources become 'resources' when we start using them to fulfil our needs.

### NATURAL RESOURCES

Natural resources are all those useful raw materials that we get from the earth. This means human action turns naturally available things like. Air, water, soil and forest, into resources. We use and modify natural resources in ways that are beneficial to us. On the basis of their origin, use and function; natural resources can be classified into different types.



## TYPES OF NATURAL RESOURCES

Natural resources can be classified into different groups depending on:

- Level of development and use
- Origin
- Stock (availability)
- Distribution

We can sub divide these categories in the following way:

Resources according to the level of development and use

On the basis of development and use, we can divide natural resources into: (A) Actual resources and (B) Potential resources.

(A) Actual resources are those resources whose quantity (amount of reserves) is known and which are currently being used. The coal deposits of Ruhr, Westphalia in Germany, Damodar Valley coalfields in the states of West Bengal, Jharkhand and Odisha (India), oil in the Middle- East, iron ore in the Krivoy Rog in the Ukraine, are few examples of actual resources. The quantity of these reserves is known (estimated) and these are being used at present.



Coal an actual resources



Windmill a potential resource

(B) Potential resources are those resources whose entire quantity is not known, or which have not been utilized up to optimum level due to unavailability of appropriate technology. However, these resources have the potential

To be used in future or they could be exploited in future with technological advances, e.g., tidal energy. Many countries are not able to tap energy produced by high tides in seas and oceans; either due to lack of technology or the inaccessibility to markets that are needed to allow it to be developed on a commercial scale. Similarly, high speed winds were a potential form of energy, for our country some two centuries ago; but now this energy is being tapped and used in Nagercoli in Tamil Nadu and on the coast of Gujarat.

### Resources based based on origin

On the basis of their origin, natural resources can be sub divided into: (A) Abiotic resources and (B) Biotic resources

(A) Abiotic resources are non-living resources such as soil, rocks and minerals.



Soil, and rocks Examples of abiotic resources

(C) Biotic Resources are living resources that fulfil our needs, e.g. plants and animals.



Crops and animals examples of biotic resources

Resources based on stock or availability

On the basis of their stock or availability, natural resources can be divided into: (A) Renewable resources and (B) Non-renewable resources

(A) Renewable resources are those resources which can be used over and over again, recycled and regenerated. Some renewable resources are unlimited and do not deplete with their use. Geothermal, solar energy and wind power are some examples of the kind.



**Solar energy is renewable energy**

However, all renewable resources are not unlimited. Careless use of certain renewable resources like? Water, soil and forest affect their stocks. These are called sustainable resources.

(B) Non-renewable resources are those resources which can be used only once and after which they cannot be replaced. They are said to be finite or non-sustainable (exhaustible) as their exploitation and use eventually leads to their exhaustion. Fossil fuels (coal and petrol) and minerals are examples of this kind. These take millions of years to form.



**Fossil fuels like petroleum and coal are non - renewable resources**

Resources based on distribution

On the basis of their distribution, natural resources can be divided into: (A) Ubiquitous resources, and (B) Localised resources.



**Forests are sustainable renewable resources**

(A) Ubiquitous resources are those resources which can be found everywhere on the earth, e.g., the air which around us and to some extent sunlight as well.

(B) Localised resources are those resources which are found only in particular regions, e.g., minerals.

Q. List out three renewables as well as three non-renewable resources that you use in your day to day life.

## **MAN-MADE RESOURCES**

Some resources are found on earth, but are not natural resources. They are man-made resources. They are created by man using his skill and technology from natural substances, after transforming their form, shape, composition and level of utility. Basically, it is the level of technology, along with government policies and economic-political-social set up; that helps in generating man-made resources. Buildings, roads, railway tracks, airports, communication towers, advance machinery, furniture and automobiles; all are man-made resources.



Bulidings monorails communication radars all are man made resources

## HUMAN RESOURCES

Human beings are a very important natural resource. Human beings can make the best use of other natural resources through their intelligence, knowledge, skill and the technology developed by them. They are able to change natural resources into a range of valuable products. Moreover, human beings are the only resource that have the quality of improving and refining their skills. This quality of humans has helped them create more resources which is called Human Resource Development. Physical and mental, both kinds of work help in using natural resources. Thus, all the labourer, workers, doctor, teachers, engineers and other professionals are Human Resource.

### Fact File

On the First Earth Day, 22nd April 1970, The Mother Earth had 3.7 billion children. Now we are 7 billion.

- We have lost 50% of the planet's original forest cover in the last 30 years.
- Agriculture consumes 75% of fresh water used.
- The grain in the ethanol that fills 1 SUV tank can feed one person for a year
- If other nations consumed resources at the rate of United States; we'd need six planets to meet their demand.



Skilled human resource

## RESOURCE CONSERVATION

### INCREASING DEMAND FOR RESOURCES

The demand for resources is increasing at an alarming rate. This is due to the population growth and development in technology.

- In 2013, total world population was 7.125 billion and it is still increasing. This causes a pressing demand on the limited natural resources.
- In almost all countries of the world, a race for economic development is on. In an attempt to raise the standard of living of their people and provide them quality life; countries are setting up more industries. Thus, natural resources are on high demand.
- Increasing wealth in all countries has helped in technological development. Ultimately, this has created a demand for more and more resources.
- Technological advances in developed countries have also enabled people to discover new uses of natural resources, extract more natural resources and find out new resources as well. For example, earlier petroleum was used as a fuel for transport and was a source of energy but now, it is used as raw material for various industries like? Paint, detergent, glue, varnish, plastics, synthetic fibre and cosmetics, etc.





Unskilled human resource

## SUSTAINABLE MEANS OF RESOURCE CONSERVATION

A need to manage the earth's resources in a sustainable way is felt in every country. This ensures that these resources are not wasted, and they are used carefully. This is called resource conservation. Due to combined effects of population growth, increasing wealth, economic development and the advances made in the technological spheres; the demand for resources is growing more and more. There is a fear that non-renewable natural resources will diminish fast and a situation will arise in the future where our future generations will be left with very limited resources or no resources.

Balancing the need to use resources and to conserve them for the future is called sustainable development. Sustainable development is the process of development in which resources are used wisely without wasting them or damaging the environment. This can be done through:

- Recycling of things and products such as-metal waste, papers, glasses, cans, etc.
- Conserving our natural vegetation and wildlife which form our ecosystem.
- Developing technologies to tap renewable resources, so that they can be used on a larger scale, e.g., energy from the Sun, wind, water and tides.

## Fact File



Using the principle of three 'R's, i.e. Renew, Recycle and Replace is the key to sustainable use of resources and their conservation.

- Controlling pollution caused by the industries, thermal power stations, vehicles and domestic wastes.
- Developing appropriate technologies to use low-cost energy sources, e.g., biogas.
- Using local knowledge and skills to conserve local resources, e.g., water harvesting in deserts of Rajasthan.
- Using resources according to the need of the people; people should avoid overusing resources as Gandhiji said, "There is enough for everyone's needs, but not enough for everyone's greed."

Whether the physical environment can continue to support us or not, depends on our attitude and the way we interact with the physical environment. If we can change our lifestyle and reduce wastage and overuse of the natural resources; then we will be able to face the future with confidence. We have to constantly remind ourselves that there is Only One Earth!

### Human-made Resources

Human-made resources are altered by humans for their own use. For example, iron is used by people to build railways, road bridges, machinery and vehicles. Technology is also considered a human-made resource as it is a result of constant human thinking and innovation.

### Human Resources

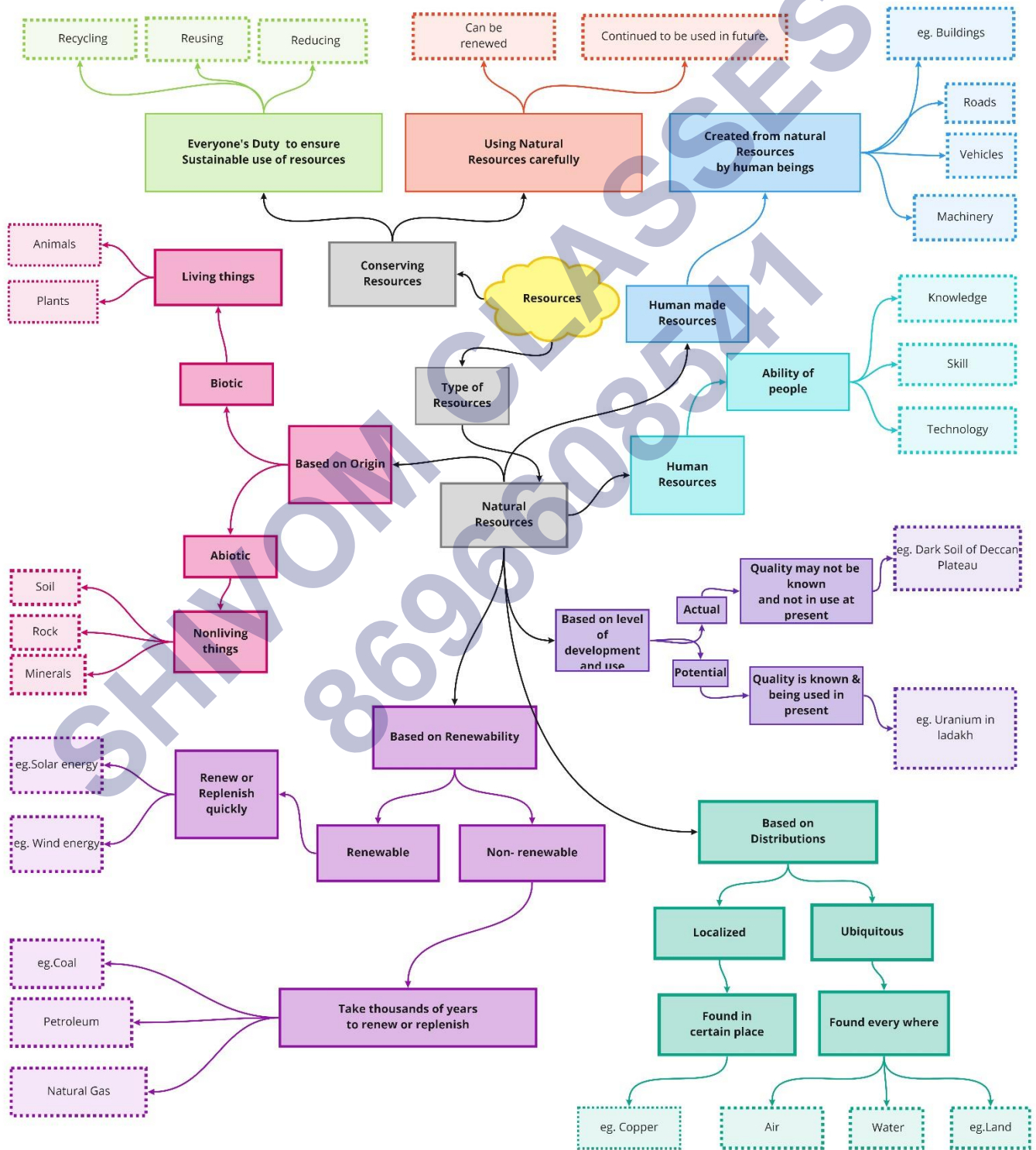
Humans are themselves considered resources as they use their knowledge, skill and technology to either create new resources or to put other resources into use. **Human resource development** is the efforts made to improve the quality of skills of people to create more resources.

### Conservation of Resources

It is important to conserve resources as many resources are scarce and take millions of years to develop. To use resources carefully and to give time to renew them is known as **conservation of resources**.

The principle of sustainable development should be followed while utilising resources. Sustainable development is the careful use of resources to meet the requirements of not only the present generation but also the future generations. Some common ways in which we can conserve resources are

- Not waste paper
- Switch off fans and lights when not in use
- Use water carefully
- Harvest water
- Reduce consumption, recycle and reuse waste materials



## Important Questions

### Multiple Choice Questions-

Question 1. Find any one among the following which is considered as an important factor that can change substances into resources.

- (a) Technology
- (b) Stock
- (c) Distribution
- (d) Origin

Question 2. Resources that are found everywhere are termed as

- (a) Localised
- (b) Biotic
- (c) Ubiquitous
- (d) Non-renewable

Question 3. Using resources carefully and giving them time to get renewed is called

- (a) Sustainable development
- (b) Human resources development
- (b) Stock of resources
- (d) Resource conservation

Question 4. The rich deposit of coal in Ruhr region of which country.

- (a) India
- (b) France
- (c) Germany
- (d) U.S.A

Question 5. What makes an object or substance a resource is its

- (a) Utility
- (b) Origin
- (c) Stock
- (d) Patent

Question 6. Using resources carefully, judicially & giving them time to get renewed is called .....

- (a) Resource Development

- (b) Sustainable Conservation
- (c) Sustainable Development
- (d) Resource Conservation

Question 7. Factors which help in the development of resources are:

- (a) All (b, c & d)
- (b) Human Resource
- (c) Technology
- (d) International Competition

Question 8. Resources created by human beings are called .....

- (a) Natural Resource
- (b) Useful Resource
- (c) Industrial Resource
- (d) Man Made Resource

Question 9. Value means .....

- (a) Utility
- (b) Worth
- (c) Money
- (d) Wealth

Question 10. People use natural resources to make buildings, bridges, roads, machinery and vehicles, which are known as .....

- (a) Human Made Resource
- (b) Human Resource
- (c) Natural Resource
- (d) Un-Natural Resource

Question 11. Which one of the following is not a "Value"?

- (a) Aesthetic Value
- (b) Economic Value
- (c) Artistic Value
- (d) Ethical Value

Question 12. A thing becomes a resource when it's ..... has been identified.

- (a) Character

- (b) Area
- (c) Utility
- (d) Availability

Question 13. Which of these have some utility?

- (a) Water
- (b) Electricity
- (c) Vegetables
- (d) All of these

Question 14. Which of these have economic value?

- (a) Landscape
- (b) Home remedies
- (c) Metals
- (d) None of these

Question 15. Resources are distributed unequally over the earth because of

- (a) The different natural conditions
- (b) Level of development
- (c) Technological levels
- (d) All of these

### Very Short:

1. What is the condition for a substance to be called a resource?
2. What do you understand by the word “utility”?
3. What are natural resources?
4. What is the name given to the type of resources that have limited stock?
5. How are resources classified according to their distribution?
6. Give three examples of abiotic resources.
7. How are human-made resources different from natural resources?
8. What is human resource development?
9. Define localized resources.
10. What is meant by natural resources?
11. Give some examples of abiotic resources.

### Short Questions:

1. Define resource conservation.
2. Human resources are an important entity, why?
3. Explain the terms resource conservation and sustainable development.
4. Why are human being resources?
5. Explain how resources are classified broadly.
6. Write a short note on the significance of time and technology in making a substance a resource.
7. As human beings, how can we ensure sustainable development?

### Long Questions:

1. What is a resource? What are the criteria (requirements) for any substance to become a resource?
2. Explain the different types of resources.
3. How do we classify natural resources on the basis of their stock?
4. What do you understand by sustainable development? Also mention its basic principles.
5. Describe the following terms in short.
  - (i) Actual resources
  - (ii) Non-renewable resources
  - (iii) Ubiquitous resources
  - (iv) Natural resources

### Answer Key:

### MCQ:

1. (a) Technology
2. (c) ubiquitous
3. (d) Resource conservation
4. (c) Germany
5. (a) utility
6. (d) Resource Conservation
7. (a) All (b, c & d)
8. (d) Man Made Resource
9. (b) Worth
- 10.(a) Human Made Resource



- 11.(c) Artistic Value
- 12.(c) Utility
- 13.(d) All of these
- 14.(c) Metals
- 15.(a) The different natural conditions

### Very Short Answer:

1. A substance needs to have some utility to be called a resource.
2. If a substance can be used in any way, it is said to have a utility.
3. Resources that are drawn directly from nature are called natural resources.
4. The resources having limited stock are called non-renewable resources.
5. On the basis of their distribution, resources are classified into ubiquitous and localized.
6. Air, land, soils.
7. Human-made resources have been created by human beings, whereas natural resources are provided by nature.
8. Improving the quality of human skills in order to make them more useful is called human resource development.
9. The resources which are found only at certain places are localized resources
10. Resources that are drawn from nature and used without much modifications are called natural resources.
11. Soil, rocks, minerals, etc. are few examples of abiotic resources.

### Short Answer:

**Ans: 1.** Resource conservation is the cautious use of the natural resources and giving them time to get renewed. In short, resource conservation implies saving resources for the future generation.

**Ans: 2.** Human resources refer to people and their contributions. Human resources are important as they are skilled to be able to make the best use of nature in order to enhance the existing resources and also create more resources using the knowledge and technology that they possess. Hence, human resources are considered highly significant.

**Ans: 3.** Resource conservation is the concept of using resources carefully so that they do not end up quickly. The future generations also need the resources, but if we keep using them at a fast pace, they may end up, thus posing problems for the future. We should use resources in such a balanced way that we satisfy our needs as well as conserve them for future. This concept is called sustainable development.

**Ans: 4.** Human beings are intelligent living beings. They can use their intelligence to realize

the utility of substances. Had there been no humans, the resources would not have been resources. Human beings are interdependent on each other, and they prove useful to each other. For example, a postman renders us an important service, so he is a resource.

**Ans: 5.** Resources are broadly classified into natural, human-made and human. Natural resources are those that are taken from nature. They are used without modifying them, i.e., in the same form as they exist in. Rivers, lakes, air, soils, minerals, trees, mountains, etc. are natural resources. Human-made resources have not been provided to us by nature. Human beings have used their intelligence to manufacture them for their own use. Examples include vehicles, buildings, roads, telephone, etc. Human resources include people who serve us in any way. A teacher, doctor, carpenter, cobbler, etc. are human resources.

**Ans: 6.** Time and technology are important factors in making substances resources. With time, technology develops. As technology develops, we begin to discover new ways to make life better. In this process, certain substances which were useless to us earlier become useful. An invention and discovery give us new resources. An example is hydroelectricity. This technology has made water a source of electricity.

**Ans: 7.** Since we live on the earth, it is our duty to practice sustainable development. We can do this by ensuring that:

- (a) The usage of renewable resources is sustainable,
- (b) The diversity of life on earth is maintained,
- (c) The damage caused to nature by our activities is as low as possible.

### Long Answer:

**Ans: 1.** All those substances which have some utility or usability are resources for us.

The different criteria required for anything to be resource for us are:

- (i) Utility or usability
- (ii) Economic value or any other value
- (iii) Time and technology inherent, which can make the substance important for present or future requirements of the people. For example: Discovery of fire led to the practice of cooking, Invention of wheel ultimately resulted in the development of newer modes of transport etc.

**Ans: 2.** In general there are three types of resources: Natural, Human – made, and Human.

#### **(i) Natural Resources:**

Resources that are drawn from nature and used without much modification are called Natural Resources. For example: Air we breathe, Water in well, Rivers and Lakes, Soil, Minerals etc. Natural resources are further divided into various types such as Actual, Potential, Abiotic, Biotic, Renewable, Non-renewable, Ubiquitous and Localized resources.

**(ii) Human – Made Resources:**

Such resources which have been changed from their original form by human effort are called as Human – Made Resources. For example: Buildings, Roads, Bridges etc. Technology is also an important example of Human – Made Resources.

**(iii) Human Resources:**

People are the greatest resource of the nation. All other resources of nature become significant only when people extract its usefulness. It is people with their demands and abilities that turn them into resources. Hence, human resource is the ultimate resource.

**Ans: 3.** On the basis of stock natural resources are further classified or subdivided into Renewable and Non-renewable types.

**Renewable Resources:** These are the resources which do not depend on the human consumption. These resources get renewed with the use of Human. But there are some kind of renewable resources which are affected with human consumption such as water, soil and forest. Other examples of renewable resources are solar and wind energy.

**Non-Renewable Resources:** These resources have a limited stock in the nature and may take thousands of years to get renewed. Since this period is much more than human life spans, so, they are called Non-Renewable Resources. For example, coal deposits, petroleum deposits etc.

**Ans: 4.** Balancing the need to use resources and also conserve them for the future is called sustainable development. In other words, Carefully, utilizing resources so that besides meeting the present requirements it also takes care of the need of future generation is known as sustainable development. The basic principles of sustainable development are given below:

1. Respect and care for all forms of life.
2. Improve the quality of human life.
3. Conserve the earth's vitality and diversity.
4. Minimize the depletion of natural resources.
5. Change personal attitude and practices towards the environment.
6. Enable communities to care for their own environment.

**Ans: 5.** Actual resources: These are those resources whose quantity is known. These resources are being used in the present.

**Non-renewable resources:** These are those resources which have a limited stock. Once the stock are exhausted it may take thousands of years to be renewed and replenished.

**Ubiquitous resources:** Resources that are found everywhere are Ubiquitous resources.

**Natural resources:** Resources that are drawn from nature and used without much modification are called Natural resources.