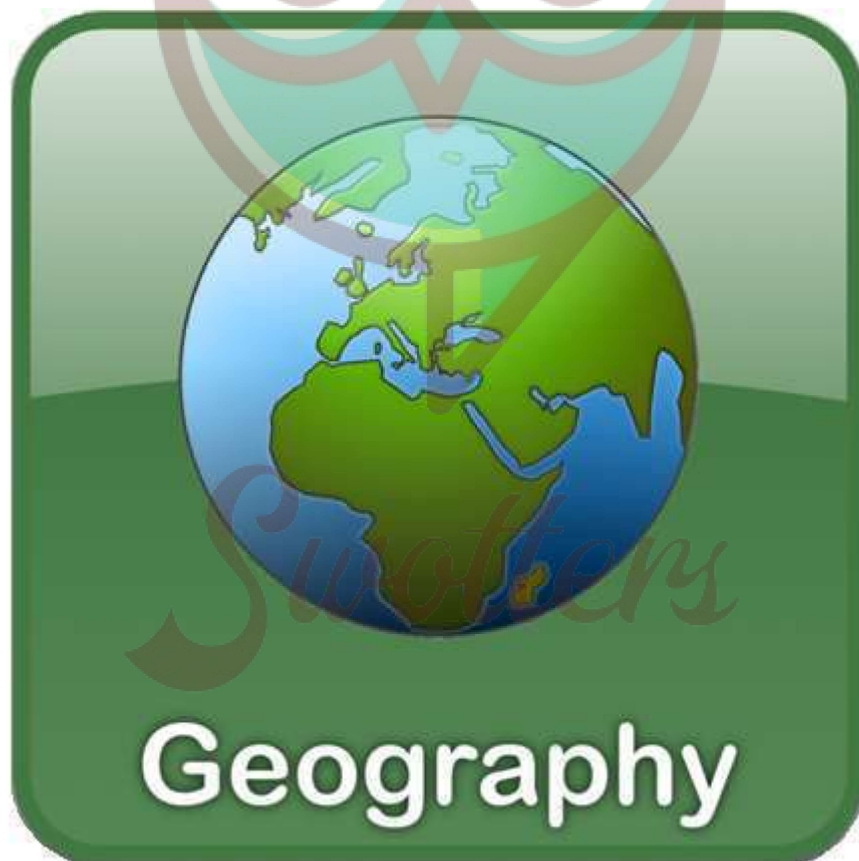


GEOGRAPHY

Chapter 5: Minerals and Power Resources



Important Questions**Multiple Choice Questions-**

Question 1. A naturally occurring substance that has a definite chemical composition is a

- (a) Ore
- (b) Rock
- (c) Mineral
- (d) Copper

Question 2. Rock from which mineral are mined are known as

- (a) Metallic mineral
- (b) Limestone
- (c) Mineral
- (d) Ore

Question 3. Deep wells bored to take the petroleum and natural gas out is called

- (a) Quarrying
- (b) Drilling
- (c) Mining
- (d) Shaft mining

Question 4. Which among the following is the leading producer of iron-ore in the world?

- (a) Europe
- (b) Asia
- (c) Antarctica
- (d) North America

Question 5. Which is the rarest diamond on this earth?

- (a) Black diamond
- (b) Blue diamond
- (c) Red diamond
- (d) Green diamond

Question 6. What are the ways to conserve minerals is?

- (a) Recycling of minerals
- (b) Reducing waste in the process of mining
- (c) Both a and b
- (d) None of these

Question 7. What is the appropriate source of energy for coastal area?

- (a) Tidal energy
- (b) Solar energy
- (c) Biogas
- (d) Wind energy

Question 8. What is the name of the mineral that is extracted from Bauxite?

- (a) Silver
- (b) Manganese
- (c) Aluminum
- (d) Copper

Question 9. Which one of the following is a leading producer of copper in the world?

- (a) Bolivia
- (b) Ghana
- (c) Chile
- (d) Zimbabwe

Question 10. Which one of the following is not a characteristic of minerals?

- (a) They are created by natural processes.
- (b) They have a definite chemical composition.
- (c) They are inexhaustible.
- (d) Their distribution is uneven.

Question 11. What are the major types of power resources?

- (a) Conventional resources
- (b) Non-conventional resources
- (c) Both a and b
- (d) None of these

Question 12. What is 'Black gold'?

- (a) Coal
- (b) Mica
- (c) Petrol
- (d) None of these

Question 13. What are the fossil fuels?

- (a) Fuels used for domestic purpose

- (b) Fuel found in highly area
- (c) Created by buried organism
- (d) None of these

Question 14. What do you mean by conventional power resources?

- (a) Resource in use for a long period of time
- (b) Extensively used by the common people
- (c) Both a and b
- (d) None of these

Question 15. What are minerals?

- (a) Found freely in the nature
- (b) Have own chemical composition
- (c) Both a and b
- (d) None of these

Very Short:

1. Differentiate between a rock and an ore.
2. Define quarrying.
3. Name the leading tin producers in Asia.
4. Name two areas in Australia, which have large deposits of gold.
5. Name two minerals in whose production India contributes a significant part.
6. In which industry is silicon important? From which ore is it obtained?
7. Why are minerals considered non-renewable?
8. Why is coal called “buried sunshine”?
9. Why are petroleum and its derivatives called “black gold”?
10. What is natural gas?
11. Which was the first country to develop hydroelectricity?

Short Questions:

1. Name and describe briefly methods of extraction.
2. Where are minerals found?
3. Describe the mineral distribution in North America.
4. Write common uses of minerals.
5. How is hydroelectricity, produced?
6. What are the uses of minerals?

7. How is the distribution of iron placed in India?

Long Questions:

1. Name and describe some non- conventional sources of energy.
2. Write the advantages and disadvantages of non-conventional sources of energy.
3. Define mineral in brief and explain how they are formed without any human interference.
4. What is meant by nuclear power? Explain the process how it is obtained. Also name the places of India where the nuclear power stations are located.

Map Question:

1. Identify Canadian Shield, Appalachians, Western Cordilleras and Lake Superior with the help of an Atlas.

Answer Key:

MCQ:

1. (c) Mineral
2. (d) ore
3. (b) Drilling
4. (a) Europe
5. (d) Green diamond
6. (c) Both a and b
7. (a) Tidal energy
8. (c) Aluminum
9. (c) Chile
- 10.(c) They are inexhaustible.
- 11.(c) Both a and b
- 12.(a) Coal
- 13.(c) Created by buried organism
- 14.(c) Both a and b
- 15.(c) Both a and b

Very Short Answer:

1. A rock is an aggregate of one or more minerals. An ore is a rock from which minerals are mined.
2. Quarrying is a process of extraction in which minerals lying near the surface are simply dug out.

3. China, Malaysia and Indonesia are leading tin producers in Asia.
4. Two areas in Western Australia having large deposits of gold are Kalgoorlie and Coolgardie.
5. India has vast deposits of high-grade iron ore, and it is also a leading producer of salt.
6. Silicon is important in the computer industry. It is obtained from quartz.
7. Minerals take thousands of years to form. The rate of formation is much smaller than rate of consumption. So, we classify them as non-renewable.
8. Coal is called “buried sunshine” because it is found buried under the earth and is as important a source of energy as sunshine.
9. Petroleum and its derivatives are black in colour but as valuable as gold, so we refer to it as “black gold”.
10. Natural gas is a fossil fuel obtained with petroleum deposits in oil fields.
11. Norway was the first country to develop hydroelectricity.

Short Answer:

Ans: 1. Mining, drilling and quarrying are methods of extraction. Mining is a process of extraction of taking out minerals from rocks under the earth's surface. Open cast mining: In this, minerals lying at shallow depths are taken out by removing the surface layer. Shaft mining: In this, deep bores (called shafts) are made to reach mineral deposits lying at large depths. Drilling: In this, deep wells are bored to take out minerals. Quarrying: It is the process of extraction in which minerals lying very close to the surface are extracted just by digging them out.

Ans: 2. Minerals are found in different types of rocks. Metallic minerals are usually found in igneous and metamorphic rocks that form large plateaus. Examples: iron ore is found in north Sweden, copper and nickel in Canada. In igneous and metamorphic rocks in South Africa, iron, nickel, chromite's and platinum are found. Non-metallic minerals are found in sedimentary rock formations. Limestone deposits are found in France. Mineral fuels such as coal and petroleum are found in sedimentary strata

Ans: 3. The mineral deposits in North America are found in three zones: the Canadian region in the north of the Great Lakes, the Appalachian region and the Rocky Mountains in the West. Iron ore, nickel, gold, uranium and copper are mined in the Canadian Shield Region, coal in the Appalachian region. Western Cordilleras have vast deposits of copper, lead, zinc, gold and silver.

Ans: 4. Minerals are important in many industries. Minerals used in gems are usually very hard. These are then set in varying styles of jewellery. Iron and copper are metals used in almost everything. Copper is present in everything from coins to pipes and electricity wires. Silicon, obtained from the mineral quartz, is the base of computer industry. Aluminum, obtained from bauxite ore, and its alloys are used in aeroplanes due to their light weight. Aluminum is also used in kitchen cookware.

Ans: 5. Hydroelectricity is produced from the energy possessed by water falling from great

heights. River water is stored in dams. When rain water or river water falls from heights, it flows over turbine blades placed at the bottom of the dam. The moving blades are connected to a generator which produces electricity from this energy. This electricity is called hydroelectricity. The water discharged after its production is used for irrigation.

Ans: 6. Minerals are used in many industries. Minerals which are used for gems are usually hard. These are then set in various styles of jewellery. Copper is another metal used in everything from coins to pipes, silicon used in computer industry is obtained from quartz. Aluminum obtained from its ore bauxite is used in automobiles and aeroplanes, bottling industry, buildings and even in kitchen cookware.

Ans: 7. India has deposits of high-grade iron ore. The mineral is found mainly in Jharkhand, Odisha, Chhattisgarh, Madhya Pradesh, Goa, Maharashtra and Karnataka.

Long Answer:

Ans: 1. Non-conventional power sources are those power sources that have come into use recently due to the depleting conventional resources and growing awareness. Solar energy, wind energy, geothermal energy, nuclear power and tidal energy are examples of non-conventional power sources.

Solar energy is the heat and light energy captured from the sun. Solar cells help to convert this energy to electricity. Solar energy is used in solar heaters, solar cookers, solar dryers, etc.

Wind energy is the energy possessed by moving air (wind). Windmills are used to convert wind energy to electricity. Wind farms having clusters of windmills located in coastal regions and mountain passes.

Nuclear power is energy possessed by the nuclei of atoms of naturally occurring radioactive elements like uranium-, thorium, etc.

Geothermal energy is the heat energy obtained from the inside of the earth. The temperature inside the earth increases as we go deeper. This heat is used to produce electricity. It is accessed in the form of hot springs. Tidal energy is the energy generated from tides. It is harnessed by building dams at narrow openings of the sea. Biogas is a gaseous fuel obtained from the decomposition of organic waste like dead plant and animal material or animal dung and kitchen waste. It is an excellent fuel for cooking and lighting and is environment-friendly.

Ans: 2. • non-conventional sources of energy are usually inexhaustible. They do not pollute the environment.

- Nuclear power is emitted in large amounts.
- Most non-conventional sources of energy cost less.
- These forms of energy are safe to use and clean.

Disadvantages:

- Windmills are costly to set up. So, using them to harness wind energy is costly, even though the electricity generated from it is cheap.

- Setting up windmills disturbs radio and TV broadcast.
- Harnessing tidal energy destroys natural habitats of wildlife.
- Moreover, tidal energy is difficult to harness.
- Obtaining nuclear energy from radioactive material generates radioactive waste. It is expensive too.
- Biogas, although useful and renewable, contributes to greenhouse effect.

Ans: 3. A naturally occurring substance that has a definite chemical composition is a mineral. Minerals are not evenly distributed over space. They are concentrated in a particular area or rock formations. Some minerals are found in areas which are not easily accessible such as the Arctic Ocean bed and Antarctica.

Minerals are formed in different types of geological environments, under varying conditions. They are created by natural processes without any human interference. They can be identified on the basis of their physical properties such as colour, density, hardness and chemical property such as solubility.

Ans: 4. Nuclear power is obtained from energy stored in the nuclei of atoms of naturally occurring radioactive elements like uranium and thorium. These fuels undergo nuclear fission in nuclear reactors and emit power. The greatest producers of nuclear power are U.S.A and Europe. In India Rajasthan and Jharkhand have large deposits of Uranium.

Thorium is found in large quantities in the Monazite sands of Kerala. The nuclear power stations in India are located in Kalapakkam in Tamil Nadu, Tarapur in Maharashtra, Ranapratap Sagar near Kota in Rajasthan, Narora in U.P, and Kaiga in Karnataka.

Map Answer:

1.

