

Long Answer Questions

Q. 1. Briefly describe the extraction of minerals.

Ans. Minerals are mainly extracted by mining, drilling or quarrying.

Mining: The process of taking out minerals from rocks buried under the earth's surface is called mining. There are two types of mining:

(i) Open cast mining

(ii) Shaft mining

(i) Open cast mining: Open cast mining refers to the method of extraction in which minerals lying at shallow depths are taken out by removing the surface layer.

(ii) Shaft mining: Shaft mining refers to the method of extraction in which deep bores called shafts, have to be made to reach mineral deposits that lie at great depths

Drilling: Deep wells are bored to take minerals out, is called drilling.

Quarrying: In process of quarrying, minerals that lie near the surface are simply dug out.

Q. 2. Explain the distribution of minerals.

Ans. Minerals occur in different types of rocks. There are three types of rocks:

(i) Igneous rocks

(ii) Sedimentary rocks

(iii) Metamorphic rocks

In igneous and metamorphic rocks, metallic minerals are found. Iron ore in North Sweden, copper and nickel deposits in Ontario Canada, iron, nickel, chromite and platinum in South Africa are examples of minerals found in igneous and metamorphic rocks.

Sedimentary rock formations of plains and young fold mountains contain non-metallic minerals like limestone.

For example, limestone deposits of Caucasus region of France, Manganese deposits of Georgia and Ukraine and phosphate beds of Algeria and mineral fuels like coal and petroleum are found in the sedimentary strata.

Q. 3. What are the advantages and disadvantages of conventional source of energy?

Ans. Advantages:

(i) Oil is easier to transport and coal is extensively available.

(ii) Firewood is easy to access.

(iii) Firewood provides energy to a large number of people.

Disadvantages:

(i) Firewood causes greenhouse effect and leads to deforestation and is a source of pollution.

(ii) Hydel Power causes displacement of local community is expensive to setup.

Q. 4. How can minerals be conserved?

Ans. (i) Minerals are a non-renewable resource.

(ii) It takes thousands of years for the formation and concentration of minerals.

(iii) The rate of formation is much smaller than the rate at which the humans consume these minerals.

(iv) It is necessary to reduce wastage in the process of mining.

(v) Recycling of metals is another way in which the mineral resources can be conserved.

Q. 5. How nuclear power is obtained and utilised in India for peaceful purpose?

Ans. (i) Nuclear power is obtained from energy stored in the nuclei of atoms naturally occurring radioactive elements like uranium and thorium.

(ii) These fuels undergo nuclear fission in nuclear reactors and emit power.

(iii) The greatest producers of nuclear power are USA and Europe.

(iv) In India, Rajasthan and Jharkhand have large deposits of uranium.

(v) Thorium is found in large quantities in the monazite sands of Kerala.

(vi) The nuclear power stations in India are located in Kalpakkam in Tamil Nadu, Tarapur in Maharashtra, Kota in Rajasthan, Narora in Uttar Pradesh and Kaiga in Karnataka.

Q. 6. What is the future of geothermal energy in India? How is it generated?

Ans. (i) Heat energy obtained from the earth is called geothermal energy.

(ii) The temperature in the interior of the earth rises steadily as we go deeper.

(iii) Sometimes, this heat energy may surface itself in the form of hot springs.

(iv) This heat energy can be used to generate power.

(v) Geothermal energy in the form of hot springs has been used for cooking, heating and bathing for several years.

(vi) In India, its plants are located in Manikaran in Himachal Pradesh and Puga Valley in Ladakh.