# Chapter 5: Mineral and Energy Resources

## Exercises — Exercises

Q1 In which one of the following States are the major oil fields located?
(a) Assam (b) Bihar (c) Rajasthan (d) Tamil Nadu

(a) Assam. Digboi, Naharkatiya and Moran in Assam are important oil-producing areas, and Assam was the only oil-producing region till 1956. Bihar, Rajasthan and Tamil Nadu are not noted for major oilfields.

Q2 At which one of the following places was the first atomic power station started?
(a) Kalpakkam (b) Narora (c) Rana Pratap Sagar (d) Tarapur

(d) Tarapur. Tarapur in Maharashtra is the earliest of the nuclear power projects listed, which also include Rawatbhata near Kota, Kalpakkam, Narora, Kaiga and Kakarapara. The chapter lists Tarapur first but does not itself say it was the first station.

Q3 Which one of the following is non-renewable source of energy?
(a) Hydel (b) Solar (c) Thermal (d) Wind power

(c) Thermal. Thermal power depends on coal, a fossil fuel that is exhaustible and cannot be replenished at the time of need. Hydel, solar and wind power are renewable, inexhaustible sources.

Q4 Give an account of the distribution of mica in India.

Mica is produced mainly in Jharkhand, Andhra Pradesh, Telangana and Rajasthan, followed by Tamil Nadu, West Bengal and Madhya Pradesh. Jharkhand's best mica lies in a belt in the lower Hazaribagh plateau, Nellore in Andhra Pradesh gives the best quality, and Rajasthan's belt runs from Jaipur to Bhilwara and around Udaipur.

Q5 What is nuclear power? Mention the important nuclear power stations in India.

Nuclear power is energy generated from nuclear minerals, chiefly uranium and thorium. Uranium occurs in Dharwar rocks, such as the Singbhum copper belt, while thorium comes from monazite in Kerala and Tamil Nadu beach sands. Important stations are Tarapur (Maharashtra), Rawatbhata near Kota (Rajasthan), Kalpakkam (Tamil Nadu), Narora (Uttar Pradesh), Kaiga (Karnataka) and Kakarapara (Gujarat).

Q6 Name non-ferrous metal. Discuss their spatial distribution.

Bauxite and copper are non-ferrous metallic minerals; India is poorly endowed with them except bauxite. Odisha is the largest bauxite producer (Kalahandi, Sambalpur), followed by Jharkhand, Gujarat, Chhattisgarh, Madhya Pradesh and Maharashtra. Copper occurs in Singhbhum (Jharkhand), Balaghat (Madhya Pradesh) and Jhunjhunu and Alwar (Rajasthan).

Q7 What are non-conventional sources of energy?

Non-conventional sources are renewable energy sources that do not depend on exhaustible fossil or nuclear raw materials. They include solar, wind, hydro, geothermal, tidal and wave energy and bio-energy. They are more equitably distributed, environment-friendly and, after the initial cost, provide cheaper, more sustained energy.

Q8 Write a detailed note on the Petroleum resources of India.

Crude petroleum consists of liquid and gaseous hydrocarbons that vary in chemical composition, colour and specific gravity. It occurs in sedimentary rocks of the tertiary period and is called liquid gold because of its scarcity and varied uses. It fuels automobiles, railways and aircraft, and its by-products feed petrochemical industries making fertiliser, synthetic rubber and fibre, medicines, vaseline, lubricants, wax, soap and cosmetics. Till 1956 Digboi in Assam was the only producing region; systematic exploration began after the Oil and Natural Gas Commission was set up in 1956. Important Assam fields are Digboi, Naharkatiya and Moran. Gujarat's fields include Ankaleshwar, Kalol, Mehsana, Nawagam, Kosamba and Lunej. Mumbai High, 160 km off Mumbai, was discovered in 1973 and production began in 1976. Oil and gas have also been found in the Krishna-Godavari and Kaveri basins. Crude oil contains impurities and must be refined; refineries are field-based (Digboi) or market-based (Barauni).

Q9 Write an essay on hydel power in India.

Hydel power is electricity generated from the energy of flowing or falling water. It is one of the renewable, non-conventional energy sources, in contrast to thermal power based on exhaustible fossil fuels. Such sources are more equitably distributed, environment-friendly and, after the initial cost is met, provide sustained and cheaper energy. Being renewable, hydel power helps sustainable development, which needs protection of resources for future generations, and developing inexhaustible sources to replace exhaustible ones is urged. It also reduces dependence on coal and petroleum, whose reserves are limited and unevenly distributed. Because it is inexhaustible and pollution-light, it suits a country wanting to conserve minerals while meeting growing needs of agriculture, industry and transport.