

Chapter 4

Minerals and Energy Resources



SUMMARY

- Mineral: Geologists define mineral as a “homogeneous, naturally occurring substance with a definable internal structure.” They have physical and chemical properties by which they can be identified.
- Rocks are combinations or aggregates of minerals in varying proportions. Some rocks consist of a single mineral, e.g., limestone while most rocks consist of several minerals.
- The term ‘ore’ is used to describe an accumulation of any mineral mixed with other elements.

I Multiple Choice Questions:

1M

- 1 Koderma-Gaya-Hazaribagh belt of Jharkhand is famous for
 - a) Copper
 - b) Mica
 - c) Iron
 - d) Limestone
- 2 Moran-Hagrijan and Naharkatiya are associated with which mineral?
 - a) Bromine
 - b) Copper and Zinc
 - c) Mineral oil
 - d) Bauxite
- 3 Which one of the following minerals is formed by the decomposition of rocks, leaving a residual mass of weathered material?
 - a) Bauxite
 - b) Gold
 - c) Coal
 - d) Zinc
- 4 Age of coal formations in the states of Meghalaya, Assam, Arunachal Pradesh and Nagaland.
 - a) Cretaceous

- b) Gondwana
 - c) Tertiary
 - d) Pleocene
- 5 Ideal place for exploitation of tidal energy in India.
- a) Gulf of Kachch and Cambay
 - b) Gulf of Mannar
 - c) Madhapur near Bhuj
 - d) Parvati vally and Puga Valley
- 6 Aluminium is obtained from this ore
- a) Haematite
 - b) Limestone
 - c) Bauxite
 - d) Magnetite
- 7 Formed due to evaporation
- a) Gypsum
 - b) Coal
 - c) Gold
 - d) Zinc
- 8 Name the mica field of Andhra Pradesh
- a) Hyderabad
 - b) Singreni
 - c) Ramagundam
 - d) Nellore
- 9 Neyveli is famous for
- a) Copper
 - b) Mica
 - c) CNG
 - d) Lignite
- 10 Which is the 100% export iron ore mine in India.
- a) Kudremukh
 - b) Badampahar
 - c) Bailadila
 - d) Koderma
- 11 Give a geographical term for the method of mining where the surface material is removed to extract the mineral from shallow depth.
- a) Underground mining
 - b) Rat-hole mining

- c) Opencast mining
 - d) None of these
- 12** The atomic power plant in Karnataka.
- a) Kalpakkam
 - b) Kaiga
 - c) Kakrapara
 - d) Kota
- 13** Which part of India is known as 'Store house of Minerals'?
- a) Malwa plateau
 - b) Peninsular plateau
 - c) Chota Nagpur Plateau
 - d) None of these
- 14** Which among the following is not an iron ore mine?
- a) Bailadila mine
 - b) Khetri mine
 - c) Badampahar mine
 - d) Kudremukh mine
- 15** In which type of rocks is limestone found?
- a) Metamorphic rocks
 - b) Sedimentary rocks
 - c) Intrusive rocks
 - d) Extrusive rocks
- 16** Length of HVJ pipeline.
- a) 1730 Km
 - b) 1370 Km
 - c) 1700 Km
 - d) 1330 Km
- 17** Minerals formed as lodes and veins in igneous and metamorphic rocks.
- a) Copper and zinc
 - b) Gold and Silver
 - c) Mica and Granite
 - d) Coal and Petroleum
- 18** Which is a ferrous mineral?
- a) Copper
 - b) Zinc
 - c) Manganese

- d) Lead
- 19** Highest quality hard coal.
- Lignite
 - Peat
 - Anthracite
 - Bituminous coal
- 20** Balaghat mines are famous for which mineral?
- Lead
 - Gold
 - Silver
 - Copper
- II** Short Answer Questions: **2M**
- How does a geographer and a geologist study minerals?
 - What do you know about Durg-Bastar-Chandrapur belt?
 - Name the most important oil fields of Gujarat.
 - Why are thermal power stations and heavy industries located near the coal fields?
- III** Short Answer Questions: **3M**
- How are minerals formed in sedimentary rocks?
 - What are the factors affecting the economic viability of a resource?
 - “Energy saved is energy produced” support the statement with suitable example.
 - List three effective measures to conserve mineral resources.
- IV** Long Answer Questions: **5M**
- “Minerals are unevenly distributed in India”. Justify the statement with examples.
 - “Minerals are indispensable part of our lives”. Explain.
- V** **Read the following passage and answer the given questions:** **1+1+2**
- The growing consumption of energy has resulted in the country becoming increasingly dependent on fossil fuels such as coal, oil and gas. Rising price of oil and gas and their potential shortage has raised uncertainties about the security of energy supply in future, which in turn has serious repercussions on the growth of national economy. Moreover, increasingly use of fossil fuels also causes serious environmental problems. Hence, there is a pressing need to use renewable energy sources like solar energy,*

wind, tide, biomass and energy from waste material. These are called non-conventional energy sources. India is blessed with an abundance of sunlight water, wind and biomass. It was the largest programmes for the development of these renewable energy resources.

- A. What are non-conventional energy resources?
- B. What is causing serious environmental problems?
- C. Why is there a pressing need to use renewable energy?

VI

Map Work

Minerals (Identification only)

- a. **Iron Ore mines**
 - Mayurbhanj • Durg • Bailadila • Bellary • Kudremukh
- c. **Coal Mines**
 - Raniganj • Bokaro • Talcher • Neyveli
- d. **Oil Fields**
 - Digboi • Naharkatia • Mumbai High • Bassien • Kalol • Ankaleshwar

Power Plants (Locating and Labelling only)

- a. **Thermal**
 - Namrup • Singrauli • Ramagundam
- b. **Nuclear**
 - Narora • Kakrapara • Tarapur • Kalpakkam



