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**CHAPTER-3**

**MINERAL AND POWER RESOURCES**

Qs 1. What are minerals?

Ans. A naturally occurring substance that has a definite chemical composition is a mineral.

Qs 2. Name two places where minerals are found but are not easily accessible.

Ans. Arctic ocean bed and Antarctica.

Qs 3. How are minerals formed?

Ans. Minerals are formed by natural processes without any human interference.

Qs 4. What are rocks?

Ans. A rock is an aggregate of one or more minerals but without definite composition of constituent of mineral.

Qs 5. Rocks from which minerals are mined are known as \_\_\_\_\_.

Ans. Ores.

Qs 6. In which categories minerals are classified on the basis of composition?

Ans. 1. Metallic minerals

2. Non-metallic minerals.

Qs 7. The metallic minerals contain \_\_\_\_\_\_\_ in raw form.

Ans. Metal.

Qs 8. What are metals? Also, give some examples.

Ans. Metals are hard substances that conduct heat and electricity and have a characteristic luster or shine. Examples: Iron ore, bauxite, manganese ore, etc.

Qs 9. Name the different types of metallic minerals.

Ans. 1. Ferrous minerals

2. Non-ferrous minerals.

Qs 10. What are ferrous minerals? Give some examples.

Ans. Ferrous minerals are the minerals which contain iron.

Examples: Iron ore, manganese and chromites.

Qs 11. What are non-ferrous minerals?

Ans. A Non-ferrous mineral does not contain iron but may contain some other metal such as gold, silver, copper or lead.

Qs 12. What are non-metallic minerals? Give some examples.

Ans. The non-metallic minerals do not contain metals.

Example: Limestone, mica, gypsum, mineral fuels like coal and petroleum, etc.

Qs 13. Name the various methods through which metals are extracted.

Ans. 1. Mining

2. Drilling

3. Quarrying.

Qs 14. What is mining?

Ans. The process of taking out minerals from rocks buried under the Earth’s surface is called mining.

Qs 15. What are the different types of mining?

Ans. 1. Open-cast mining

2. Shaft mining.

Qs 16. What is open-cast mining?

Ans. Minerals that lie at shallow depths are taken out by removing the surface layer. This is known as open-cast mining.

Qs 17. What is shaft mining?

Ans. Deep bores, called shafts, have to be made to reach mineral deposits that lie at great depths. This is called shaft mining.

Qs 18. What is drilling?

Ans. Petroleum and natural gas occur far below the Earth’s surface. Deep wells are bored to take them out, this is called drilling.

Qs 19. What is quarrying?

Ans. Minerals that lie near the surface are simply dug out, by the process known as quarrying.

Qs 20. Where do minerals occur?

Ans. Minerals occur in different types of rocks. Some are found in igneous rocks, some in metamorphic rocks while others occur in sedimentary rocks.

Qs 21. Where the metallic minerals are found? Give some examples.

Ans. Generally, metallic minerals are found in igneous and metamorphic rock formations that form large plateaus. Examples: Iron-ore in north Sweden, copper and nickel deposits in Ontario, Canada, iron, nickel, chromites and platinum in South Africa.

Qs 22. Where the non-metallic minerals are found? Give some examples.

Ans. Sedimentary rock formations of plains and young fold mountains contain non-metallic minerals. Examples: Limestone deposits of Caucasus region of France, manganese deposits of Georgia and Ukraine and phosphate beds of Algeria.

Qs 23. Where the mineral fuels are found?

Ans. Mineral fuels such as coal and petroleum are found in the sedimentary strata.

Qs 24. \_\_\_\_\_\_ and \_\_\_\_\_\_ have large iron ore deposits in Asia.

Ans. China and India.

Qs 25. \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ are among the World’s leading tin producers.

Ans. China, Malaysia and Indonesia.

Qs 26. \_\_\_\_\_\_\_ is the leading producer of iron-ore in the World.

Ans. Europe.

Qs 27. Name some countries with large iron ore deposits.

Ans. Russia, Ukraine, Sweden and France.

Qs 28. Name some minerals which are found in Europe.

Ans. Iron-ore, copper, lead, zinc, manganese and nickel.

Qs 29. Where the mineral deposits are located in North America?

Ans. They are located in three zones:

1. The Canadian region of the Great Lakes
2. The Appalachian region of the west
3. The Mountain ranges of the west.

Qs 30. Which minerals are found in the Canadian region of the Great Lakes in the North America?

Ans. Iron ore, nickel, gold, uranium and copper.

Qs 31. \_\_\_\_\_ is found in the Appalachian region of the west in North America.

Ans. Coal.

Qs 32. Which minerals are found in the western cordilleras in the North America?

Ans. Copper, lead, zinc, gold and silver.

Qs 33. \_\_\_\_\_ is the largest producer of high grade iron-ore in the World.

Ans. Brazil

Qs 34. Name the minerals which are found in South America.

Ans. Iron-ore, copper, tin, gold, silver, zinc, chromium, manganese, bauxite, mica, platinum, asbestos, diamond and mineral oil.

Qs 35. In which areas mineral oil is found in South America?

Ans. Venezuela, Argentina, Chile, Peru and Columbia.

Qs 36. Name the world’s largest producer of diamonds, gold and platinum.

Ans. Africa.

Qs 37. Name some minerals found in Africa.

Ans. Diamonds, gold, platinum, copper, iron ore, chromium, uranium, cobalt and bauxite.

Qs 38. Name the areas where oil can be found in Africa.

Ans. Nigeria, Libya and Angola.

Qs 39. \_\_\_\_\_\_ is the largest producer of bauxite in the world.

Ans. Australia.

Qs 40. Name the minerals which are found in Australia.

Ans. Bauxite, gold, diamond, iron ore, tin, nickel, copper, lead, zinc and manganese.

Qs 41. Name the areas in Australia which have the largest deposits of gold.

Ans. Kalgoorlie and Coolgardie areas of western America.

Qs 42. Name the minerals which are found in Antarctica.

Ans. Coal in the Transantarctic Mountains, iron near the Prince Charles Mountains of East Antactica, iron ore, gold, silver and oil.

Qs 43. Where is iron found in India?

Ans. Jharkhand, Orissa, Chhattisgarh, Madhya Pradesh, Goa, Maharashtra and Karnataka.

Qs 44. Name the major bauxite producing areas in India.

Ans. Jharkhand, Orissa, Chhattisgarh, Madhya Pradesh, Gujarat, Maharashtra and Tamil Nadu.

Qs 45. Name the areas in India where mica deposits mainly occur.

Ans. Jharkhand, Bihar, Andhra Pradesh and Rajasthan.

Qs 46. Name the areas in India where copper is mainly produced.

Ans. Rajasthan, Madhya Pradesh, Jharkhand, Karnataka and Andhra Pradesh.

Qs 47. In which areas India’s manganese deposits lie?

Ans. Maharashtra, Madhya Pradesh, Chhattisgarh, Orissa, Karnataka and Andhra Pradesh.

Qs 48. Name the major limestone producing states in India.

Ans. Bihar, Jharkhand, Orissa, Madhya Pradesh, Chhattisgarh, Rajasthan, Gujarat and Tamil Nadu.

Qs 49. Which area has deposits of gold in India?

Ans. Kolar in Karnataka.

Qs 50. Where does salt is obtained in India?

Ans. It is obtained from seas, lakes and rocks.

Qs 51. What are the various uses of minerals?

Ans. Uses:

1. Minerals which are used for gems are set in various styles for jewellery.
2. Copper is used in everything from coins to pipes.
3. Silicon obtained from quartz is used in the computer industry.
4. Aluminium obtained from its ore bauxite is used in automobiles and airplanes, bottling industry, buildings and even in kitchen cookware.

Qs 52. Why is conservation of minerals required?

Ans. Minerals are a non-renewable resource. It takes thousands of years for the formation and concentration of minerals. The rate of formation is much smaller than the rate at which the human consume these minerals.

Qs 53. How minerals can be conserved?

Ans. It is necessary to reduce wastage in the process of mining. Recycling of metals is another way in which the mineral resources can be conserved.

Qs 54. What are the advantages of oil?

Ans. 1. Easier to transport (tankers)

2. Basis of petro-chemical industry.

Qs 55. What are the disadvantages of oil?

Ans. 1. Depletion of oxygen due to oil spillage and gas leakage.

2. Pollutants released caused acid rain

3. Exploration of new fuel is not easy.

Qs 56. What are the advantages of natural gas?

Ans. 1. Easier to transport (Pipelines)

2. Cleaner than oil and coal

3. Cheaper than oil.

Qs 57. What are the different types of power resources?

Ans. 1. Conventional Resources

2. Non-conventional Resources.

Qs 58. What are the conventional sources of energy? Give two examples.

Ans. Conventional sources of energy are those which have been in common use. Example: Firewood and fossil fuels.

Qs 59. What are the uses of firewood?

Ans. It is used in cooking. In our country, more than fifty percent of the energy used by villagers comes from fire wood.

Qs 60. Remains of plants and animals which were buried under the Earth for millions of years got converted by the heat and pressure into \_\_\_\_\_\_.

Ans. Fossil fuels.

Qs 61. Name three main sources of conventional energy.

Ans. Coal, petroleum and natural gas.

Qs 62. Why the fossil fuels are likely to be exhausted soon?

Ans. The reserves of fossil fuels are limited. The rate at which the growing world population is consuming them is far greater than the rate of their formation. So, these are likely to be exhausted soon.

Qs 63. What are the uses of coal?

Ans. 1. Used as a domestic fuel

2. Used in industries such as iron and steel

3. Steam engines

4. Used to generate electricity.

Qs 64. Electricity from coal is called \_\_\_\_\_\_.

Ans. Thermal power.

Qs 65. How was coal formed?

OR

Why coal is also referred to as Buried Sunshine?

Ans. The coal which we are using today was formed millions of years ago when giant ferns and swamps got buried under the layers of Earth. Coal is therefore referred to as Buried Sunshine.

Qs 66. Name some leading coal producers of the world.

Ans. China, USA, Germany, Russia, South Africa and France.

Qs 67. Name the coal producing areas of India.

Ans. Raniganj, Jharia, Dhanbad and Bokaro in Jharkhand.

Qs 68. Where is petroleum found?

OR

How petrol/ diesel/ kerosene/ wax/ plastics/ lubricants are produced?

Ans. It is found between the layers of rocks and is drilled from oil fields located in off-shore and coastal areas. This is then sent to refineries which process the crude oil and produce a variety of products like diesel, petrol, kerosene, wax, plastics and lubricants.

Qs 69. Petroleum and its derivatives are called \_\_\_\_.

Ans. Black Gold.

Qs 70. Name the chief petroleum producing countries.

Ans. Iran, Iraq, Saudi Arabia and Qatar.

Qs 71. Name the leading producers of petroleum in India.

Ans. Digboi in Assam, Bombay High in Mumbai and the deltas of Krishna and Godavari rivers.

Qs 72. How natural gas is formed?

Ans. Natural gas is found with petroleum deposits and is released when crude oil is brought to the surface.

Qs 73. Name the areas in India which have natural gas resources.

Ans. Jaisalmer, Krishna Godavari delta, Tripura and some off-shore in Mumbai.

Qs 74. How is hydro electricity formed?

Ans. Rain water or river water stored in dams is made to fall from heights. The falling water flows through pipes inside the dam over turbine blades placed at the bottom of the dam. The moving blades then turn the generator to produce electricity. This is called hydro electricity.

Qs 75. Name some hydel power stations in India.

Ans. Bhakra Nangal, Gandhi Sagar, Nagarjunsagar and Damodar valley projects.

Qs 76. What are the uses of solar energy?

Ans. 1. Solar energy can be used in solar cells to produce electricity.

2. used in solar heaters

3. used in solar cookers

4. used in solar dryers.

Qs 77. Heat energy obtained from the Earth is called \_\_\_\_.

Ans. Geothermal energy.

Qs 78. Energy generated from tides is called \_\_\_\_.

Ans. Tidal energy.

Qs 79. Organic waste can be converted into a gaseous fuel called \_\_\_.

Ans. Biogas.