INDIAN SCHOOL AL WADI AL KABIR

Class: X	Department: Social Science	Sub: Geography
Chapter-5 Question Bank:3	Topic: Minerals and Energy Resources	Year: 2026 -2027

1	**What are rocks?** Ans. Rocks are combinations of homogenous substances called minerals. Some rocks, for instance limestone, consist of a single mineral only, but majority of the rock consist of several minerals in varying proportions.
2	**What is an ore?** Ans. Ore is a mineral from which a metal can be extracted economically. E.g. Magnetite (Iron), Pyrite (Copper), Bauxite (Aluminium)
3	**What is a Mineral?** Ans. Geologists define mineral as a "homogenous, naturally occurring substance with a definable internal structure". E.g. Quartz, Mica, Feldspar etc.
4	**What are Placer deposits?** Ans. Alluvial deposits with some minerals in the valley floors and the base of hills are called Placer deposits. E.g. Gold, Silver, Platinum etc.
5	**How are minerals formed in igneous and metamorphic rocks?** In igneous and metamorphic rocks minerals may occur in the cracks, crevices, faults or joints. The smaller occurrences are called veins and the larger are called lodes. Major metallic minerals like tin, copper, zinc and lead etc. are obtained from veins and lodes.
6	**Describe the four major Iron ore belts of India.** (i) Odisha-Jharkhand Belt: In Odisha, high grade hematite ore is found in Badampahar mines in the Mayurbhanj and Kendujhar districts. In the adjoining Singhbhum district of Jharkhand; hematite iron ore is mined in Goa and Noamundi. (ii) Durg-Bastar-Chandrapur: It lies in Chhattisgarh and Maharashtra. Very high-grade hematite is found in the famous Bailadila range of hills in the Bastar district of Chhattisgarh. It has the best physical properties needed for steel making; iron ore from these mines is exported to Japan, South Korea via the Vishakhapatnam port. (iii) Bellary-Chikmaglur-Chitradurga: Tumkur belt in Karnataka has large reserves of iron ore. The Kudermukh mines located in the western Ghats of Karnataka are a 100 per cent export unit. Kudermukh deposits are known to be one of the largest in the world. (iv) Maharashtra - Goa belt: It includes the state of Goa, and Ratnagiri district of Maharashtra. Though the ores are not of very high quality, yet they are efficiently exploited. Iron ore is exported through the **Marmagao** port.
7	**State two main uses of Copper. Also, mention four major Copper producing districts of India?** Ans: (i) Uses – It is used for making electric wires, utensils and alloys. (ii) Major Copper producing districts/states – Khetri in Rajasthan, Nellore in Andhra Pradesh, Madhya Pradesh and Karnataka.

8	**State uses of limestone and largest producer state of lime stone?** Ans: About 75% of limestone is used in the cement industry, rest is used for smelting of iron and in chemical industries. Leading producer of limestone is Madhya Pradesh.
9	**Describe the distribution of coal in India?** Ans: (i) Anthracite is found in Jammu and Kashmir (ii) Bituminous is found in Jharkhand, Orissa, West Bengal, Chhattisgarh and Madhya Pradesh. (iii) Lignite is found in Tamil Nadu and Rajasthan.
10	**"Hydel power is more important source of energy than thermal power" Discuss this fact with three examples?** Ans: Hydel power is a renewable source as it is produced from flowing or falling water. On the other hand, thermal power is produced from coal, petroleum or natural gas which are non-renewable and causing pollution. Hydel power is neat and clean and pollution free with less maintenance cost.
11	**Coal is an important source of energy even today? Give reasons.** Ans: (i) It is most important for the Iron and Steel Industry. (ii) Major raw materials for chemical industries. (iii) Over two-third of the coal in India is used to produce electricity in thermal power plant.
12	**What is the importance of natural gas as a source of fuel?** Ans: (i) domestic as well as industrial raw material (ii) can be easily transported through pipelines (iii) setting up of fertilizer plant and power plants on its way (iv) clean source of energy (v) Environment friendly because of low carbon emission.
13	**"The increasing use of Compressed Natural Gas (CNG) in transport reflects a shift towards cleaner and more sustainable sources of energy." Analyse the statement and explain why CNG is gaining popularity as a fuel for transport vehicles in India.** Ans: Compressed Natural Gas (CNG) is increasingly being used as a fuel for transport vehicles in India as an alternative to conventional liquid fuels such as petrol and diesel. 1. Lower pollution: CNG is a cleaner fuel and produces fewer harmful pollutants than petrol and diesel. Its increased use can help reduce air pollution, particularly in urban areas. 2. Environment-friendly: CNG produces relatively lower emissions of pollutants and greenhouse gases, making it a more environmentally sustainable fuel for transportation. 3. Conservation of petroleum resources: Petroleum is a finite and exhaustible resource. Greater use of CNG can reduce dependence on petrol and diesel and help conserve valuable petroleum reserves. 4. Growing transport demand: Rapid urbanisation, industrialisation and the expansion of road transport have increased the demand for transport fuels. CNG provides an alternative to conventional petroleum-based fuels. 5. Sustainable development: Promoting cleaner fuels such as CNG can help India balance its growing energy requirements with the need to control environmental degradation. Thus, the growing popularity of CNG is significant not only because it provides an alternative transport fuel but also because it contributes to pollution control, conservation of petroleum resources and sustainable development.
14	**Differentiate between conventional sources of energy and non-conventional sources of energy?** **Conventional sources of energy.** | **Non-conventional sources of energy.**

1. These have been used for some time.	1. These have been recently developed.
2. These are expensive in the long run.	2. These are cheaper in the long run.
3. These are used extensively.	3. These are used locally.
4. E.g. Coal, petroleum, natural gas and hydroelectricity.	4. E.g. Solar, wind, tidal, geothermal, atomic energy and Biogas.

15 "Solar energy has immense potential to become an important source of energy in India." Analyse the statement by explaining the geographical and environmental factors that favour the development and utilisation of solar energy in the country.

Ans: Solar energy has immense potential in India due to the country's favourable geographical conditions and the growing need for clean and sustainable energy.

Favourable location: India lies largely in the tropical region and receives abundant sunlight for a major part of the year. This provides considerable scope for the generation of solar energy.

Abundant and renewable source: Solar energy is available in plenty and is continuously replenished by nature. Therefore, it can help meet the increasing energy requirements without exhausting natural resources.

Environment-friendly: Solar energy is a clean and pollution-free source of energy. Its wider use can reduce dependence on coal, petroleum and other fossil fuels and help control environmental pollution.

Wide range of applications: Solar energy can be used for cooking, lighting, heating water, pumping water and cooling, making it useful in both rural and urban areas.

Growing adoption: With technological development and increasing awareness, the use of solar energy is expanding across different parts of the country.

Thus, India's abundant sunshine, renewable nature of solar energy, wide range of applications and environmental advantages make solar energy a promising source for India's future energy needs.

16 **What are non-conventional sources of energy? Explain why these sources are considered to have a bright future in India. Support your answer with suitable examples.**

Ans: Non-conventional sources of energy are those sources that are generally renewable, abundant and less polluting than conventional sources of energy. Important non-conventional sources include solar energy, wind energy, geothermal energy and tidal energy.

These sources have a bright future because:

1. Abundant availability: Sources such as sunlight and wind are available in large quantities in India.
2. Renewable nature: Unlike coal and petroleum, these sources can be replenished naturally and are not likely to be exhausted.
3. Environment-friendly: They produce little or no pollution and help reduce greenhouse gas emissions.
4. Low operating cost: Once the required infrastructure is established, many renewable energy projects have relatively low running costs.
5. Suitable for sustainable development: Greater use of renewable energy can reduce India's dependence on fossil fuels and contribute to long-term energy security.

Thus, the development of non-conventional sources of energy is essential for meeting India's growing energy requirements while protecting the environment and ensuring sustainable development.

17	**How will you use and conserve energy efficiently?** Ans: To conserve energy we should: - (i) use public transport system as far as possible. (ii) Switch off electricity if not required. (iii) use power saving devices. (iv) regularly check our power equipments. (v) emphasise on greater use of nonconventional sources of energy.
18	**"Energy is the basic requirement for the economic development of a country, but its resources are limited and unevenly utilised." Analyse the importance of conserving energy resources in India.** Ans: Energy is essential for the economic and social development of a country. Almost every sector of the Indian economy, including agriculture, industries, transport, commerce and domestic activities, depends heavily on energy. Therefore, conservation of energy resources is essential for India's sustainable development. 1. Increasing demand for energy: India's growing population, urbanisation, industrialisation and economic activities have resulted in a continuous rise in energy consumption. 2. Limited availability of conventional resources: Resources such as coal, petroleum and natural gas are finite and take millions of years to form. Excessive exploitation may lead to their depletion. 3. Energy security: Conserving energy reduces unnecessary consumption and helps ensure that adequate energy resources remain available for future generations. 4. Environmental protection: Excessive use of fossil fuels causes air pollution and contributes to greenhouse gas emissions. Efficient use of energy can reduce environmental degradation. 5. Improving energy efficiency: India needs to reduce wastage and adopt energy-efficient technologies and practices. This is particularly important because the country has historically faced challenges related to energy efficiency. 6. Sustainable economic development: Conservation enables India to meet its present energy requirements while safeguarding resources and environmental quality for future generations. Thus, energy conservation is not merely a means of reducing consumption; it is an essential strategy for ensuring energy security, protecting the environment and achieving sustainable economic development in India.
	<u>IMPORTANT MAPS FROM CHAPTER-5 (MINERALS)</u> **<u>Map No: 1,</u>** INDIA - MINERALS – (Identification only) (Page: 54) **Iron ore** – Kudermukh, Bellary, Bailadila, Durg, and Mayurbhanj **<u>Map No: 2,</u>** INDIA – ENERGY RESOURCES, HVJ PIPE LINE – (Page: 59) (Identification only) **Coal mines -** Neyveli, Talcher, Bokaro and Raniganj **Oil fields**- Naharkatia, Mumbai high, Digboi, Bassien, Ankaleshwar and Kalol **<u>Map No: 3,</u>** INDIA POWERPLANTS – (Locating and labelling), (Page: 61) **Nuclear-** Kalpakkam, Tarapur, Kakrapara, and Narora. **Thermal**- Ramagundam, Singrauli, and Namrup.