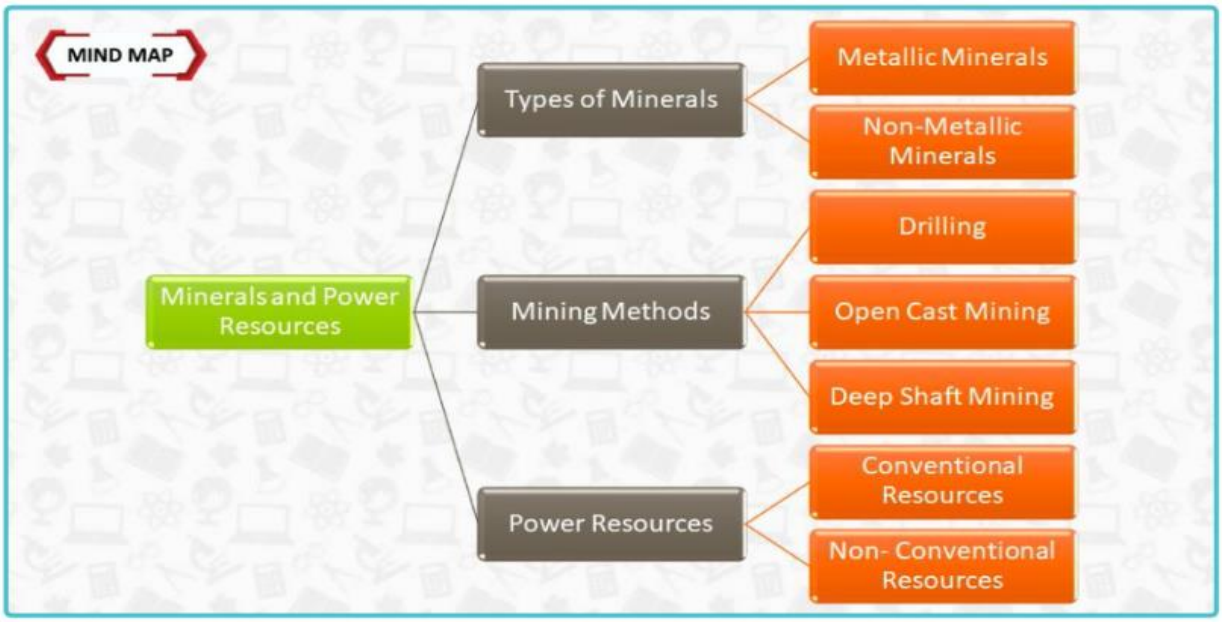
DELHI PUBLIC SCHOOL, MANDLA ROAD, JABALPUR
CLASS NOTES ON GEOGRAPHY

CHAPTER 17 - MINERALS AND POWER RESOURCES

BASIC CONCEPTS



I. CHOOSE THE CORRECT OPTION.

1. b. diamond
2. c. open cast
3. b. non-ferrous mineral
4. a. lignite
5. a. Gulf of Kutch

II. FILL IN THE BLANKS.

1. Anthracite
2. Petroleum
3. Fission
4. Manikaran, Geothermal
5. Shakti Sthala

III. ANSWER THE FOLLOWING QUESTIONS IN ONE OR TWO SENTENCES.

1. What is the definition of a mineral?

A mineral is a naturally occurring substance with a definite chemical composition and certain specific physical properties.

2. What is an ore?
   Any solid naturally occurring substance from which minerals may be extracted profitably is called an ore.

3. Name the minerals found as placer deposits?
   Minerals such as gold, silver and platinum occur as placer deposits.

4. Which regions in the world are rich in iron ore reserves?
   Iron ore is found in China, Australia, Brazil, India, Russia.

5. Mention any one use of aluminium and iron?
   Aluminium: It is used for making automobiles and aeroplanes.
   Iron: It is used to make steel which is used for machines, beams, automobiles, ships, tools, furniture, clips and nails.

IV. ANSWER THE FOLLOWING QUESTIONS IN BRIEF.

1. Distinguish between metallic and non-metallic minerals.

	Metallic Minerals	Non Metallic Minerals
1.	They contain metals.	They do not contain any metal.
2.	They can be melted to form new products.	They do not yield any new product on melting.
3.	They are malleable and ductile.	They are neither ductile nor malleable.
4.	They have lustre or shine.	They do not shine or have lustre.
5.	They are hard and conduct heat and electricity.	They are usually not as hard as metallic minerals.
6.	They are generally associated with igneous rocks.	They are associated with sedimentary rocks.
7.	For example, brass is an alloy of copper and tin, and bronze is an alloy of copper and zinc.	For example, limestone, mica and potash.

2. Describe the four types of coal in brief.
   Coal is divided into four types based on carbon content :

i. Anthracite : It is the highest quality of coal with more than 90 per cent carbon content. It emits less smoke on burning.
ii. Bituminous : It is formed due to very high temperature and is buried deep within the crust. It is considered to be high-grade metallurgical coal. It is used for smelting iron ore in the blast furnace.
iii. Lignite : It is a low-grade brown coal, which is soft and has a high moisture content.
iv. Peat : It is a dark brown substance consisting of partially decomposed vegetable matter. It is hard to burn. It gives out huge amount of smoke and has high moisture content and low heating capacity.

3. What are the different types of non-conventional energy? Write one sentence for each.
   Following are the non-conventional energy resources:
   i. Nuclear power is the energy obtained from altering the structure of radioactive atoms such as uranium, plutonium, etc., by the process of nuclear fission or fusion.
   ii. Solar energy is inexhaustible and non-polluting in nature. It is used in heating and cooling appliances through photovoltaic cells, which convert sunlight directly into electricity.
   iii. Wind energy is harnessed by the help of windmills, which convert the kinetic energy of wind to electrical energy.
   iv. Tidal energy is the energy generated from ocean tides.
   v. Geothermal energy is obtained from harnessing the heat of Earth's interior.
   vi. Biogas is derived from organic wastes including human and animal wastes such as cow dung, dead plants, kitchen waste, shrubs, farm wastes, etc.

4. What are the advantages and disadvantages of wind power?
   Advantages of wind energy are:
   i. Green source of energy and does not cause pollution.
   ii. A source of renewable energy.
   iii. It is cheap as the operational costs associated with wind power are low.

Disadvantages of wind energy are:

i. Wind is unpredictable and the availability of wind energy is not constant.
ii. Initial costs of setting up a wind farms are huge.
iii. The rotating blades of a wind turbine are a threat to birds, bats and other aerial creatures.

5. Write the various steps that we should take to conserve mineral and power resources?

   We should take the following steps to conserve mineral and power resources:

   i. Wastage in extraction of minerals must be avoided by using efficient mining technology.
   ii. Recycling of metallic minerals must be practised.
   iii. Better substitutes for metals, rare minerals and fast-depleting power resources must be discovered.
   iv. Use of power-saving devices and non-conventional sources of energy must be encouraged to save fuel.
   v. Public transport must be used as far as possible to save fuel.
   vi. Improvement in techniques of extraction and purification of minerals to reduce wastage.
   vii. Environmental safeguards and protection measures must be incorporated in policies, planning, site selection and choice of technology at the time of mineral extraction and processing, energy usage, etc.

I Do, I Understand, page 175 : PROJECT ACTIVITY (SUBJECT ENRICHMENT ACTIVITY) – to be done by students (the project can be of maximum 5-6 pages, not beyond that)

The students must do this activity as project. The first step could be to find out the units of energy needed by individual home appliances, for this students can either refer to the internet or talk to their local salespersons. The next step could be to calculate the per day/week/month/year usage in order to identify the total units of electricity that are being wasted. The students can take the help of their parents in the project.

Note : This will be discussed during the online classes as well.

Skill Focus, page 176 : The students may refer to maps on page 166 for marking the required areas. To be done by the students as homework and thereafter it will be discussed during the online classes.