

## CHAPTER – 3

### Mineral and Power Resources

#### ❖ Let's do Pg-29

#### **Question 1:**

List the uses of any five minerals.

#### **Answer:**

Minerals are backbone of human civilization. Minerals are used for various things that human beings use in their day to day lives:

- a. Manganese: Manganese is used in manufacture of ferrous alloys that are very strong and is used in machinery equipment's.
- b. Mica: Mica is base component of electrical industry.
- c. Aluminum: It is used in automobiles and airplanes, bottling industry and even in kitchen cookware.
- d. Silicon: It is used in computer and hardware manufacture.
- e. Gold: It used in making jewellery and ornaments.

#### ❖ Exercise

#### **Question 1 A:**

Name any three common minerals used by you every day.

#### **Answer:**

Common minerals used by us every day are iron, copper and gold.

### **Question 1 B**

What is an ore? Where are the ores of metallic minerals generally located?

**Answer:**

Rocks from which minerals are mined are known as ores. It is a naturally occurring solid material from which a metal or valuable mineral can be extracted profitably. The ores of metallic minerals are generally located in igneous and metamorphic rocks.

**Note:**

Sedimentary rock formations of plains and young fold mountains contain non-metallic minerals like limestone.

### **Question 1 C**

Name two regions rich in natural gas resources.

**Answer:**

Natural gas is found in hydrocarbon reservoirs or underground rock formations. The regions rich in natural gas resources in India are Jaisalmer and Krishna, Godavari basin.

### **Question 1 D**

Which sources of energy would you suggest for:

- a. Rural areas.
- b. Coastal areas.
- c. Arid regions.

**Answer:**

As non-renewable sources of energy are fast depleting, we must bring into use renewable sources of energy which are easily available as per the topography of the area.

- a. Rural areas: Rural areas would have resources like **Biogas, firewood** in abundance. So it can be used as a source of energy.
- b. Coastal areas: Coastal areas experience fast winds, so **Wind energy** can be used as a source of energy.
- c. Arid regions: Arid regions have high temperature and ample of sunlight. **Solar energy** would be a suitable source of energy.

**Question 1 E**

Give five ways in which you can save energy at home.

**Answer:**

All of us must use energy judiciously which can be done in the following ways:

- i. Switch off tube light, bulbs, CFLs etc. when not in use.
- ii. Don't leave the tap open while brushing your teeth to save water.
- iii. The electric appliance should be used as per instructions and should be maintained properly.
- iv. Switch to conventional sources of energy like solar energy rather than the non-conventional sources of energy.

v. Cook most of the food items in pressure cookers rather than in open pans and soak lentils and beans before cooking them to reduce cooking time.

### **Question 2 A**

Which one of the following is NOT a characteristic of minerals?

- a. They are created by natural processes.
- b. They have a definite chemical composition.
- c. They are in exhaustible.
- d. Their distribution is uneven.

**Answer:**

Minerals are nonrenewable sources of energy. Mineral reserves are limited in nature as they take millions of years to form.

### **Question 2 B:**

Which one of the following is NOT a producer of mica?

- a. Jharkhand
- b. Karnataka
- c. Rajasthan
- d. Andhra Pradesh

**Answer:**

Mica is found in igneous and metamorphic rocks which are not found in Karnataka.

### **Question 2 C:**

Which one of the following is a leading producer of copper in the world?

- a. Bolivia

- b. Ghana
- c. Chile
- d. Zimbabwe

**Answer:**

Chile produces about 5,750,000 tonnes of copper in a year.

**Question 2 D:**

Which of the following LPG in your kitchen?

- a. Soaking the dal for some time before cooking it.
- b. Cooking food in a pressure cooker.
- c. Keeping the vegetables chopped before lighting the gas for cooking.
- d. Cooking food in an open pan kept on low flame.

**Answer:**

Cooking food in an open pan on low flame will lead to higher consumption of LPG.

**Question 3 A:**

Environmental aspects must be carefully looked into before building huge dams.

**Answer:**

Dams have huge human and environmental costs.

- a. Dams results in large scale displacement. Large areas get submerged and inhabitants have to move elsewhere.
- b. Large scale dams disturb the balance of earth beneath which makes the area more earthquake and flood prone.

Thus environmental aspects must be carefully looked into before building huge dams.

**Question 3 B:**

Most of the industries are concentrated around coal mines.

**Answer:**

Many coal based industries are established in the vicinity of coal mines. This is because coal ores are very heavy and its transportation from one place to another is expensive. Thus, to save the cost of production, industries are set up nearby.

**Question 3 C:**

Petroleum is referred to as 'black gold'.

**Answer:**

Petroleum is called black gold because when crude oil is extracted from the land it is black in color and it is a very valuable fossil fuel. Petroleum is used for running machinery, transport vehicles, airplanes, etc. It is also used to produce a variety of products like diesel, kerosene, wax, lubricants, etc. Petroleum is a non-renewable source of energy and its reserves are limited. Thus, petroleum is a very precious natural resource in the absence of which the human economic growth will suffer a huge loss.

**Question 3 D:**

Quarrying can become a major environmental concern.

**Answer:**

Quarrying depletes the mineral and organic content of soil and leaves the land barren. It also makes land more vulnerable. It leads to increased soil erosion and land degradation.

**Question 4 A:**

Conventional and non-conventional sources of energy.

**Answer:**

Conventional Sources of Energy	Non-Conventional Sources of Energy
1. Conventional sources of energy are those sources of energy which have been in use for long time.	1. Non – conventional sources of energy are those sources which are relatively new.
2. Coal, petroleum, natural gas and electricity (both thermal and hydel) are examples of conventional sources.	2. Solar, wind, tidal, geothermal, atomic energy and bio – gas are examples of non-conventional sources of energy.
3. They are exhaustible sources of energy and cannot be replenished easily.	3. They are not exhaustible sources of energy. They are renewable.

**Question 4 B.**

**Biogas and natural gas:**

Biogas	Natural gas
1. Biogas is produced by fermentation of organic components.	1. Natural gas is found naturally in hydrocarbon reserves.

2. It is used as fuel and for lighting homes.	2. It is used as a raw material in petro – chemical industry.
3. It is commonly used in rural areas.	3. It is used in urban areas.
4. it is produced commercially in tanks by cow dung etc.	4. It is transported through pipelines.

### Question 4 C:

Ferrous and non-ferrous minerals:

**Answer:**

Ferrous Minerals	Non – ferrous Minerals
1. These are those minerals which contain iron.	1. These are those minerals which do not contain iron.
2. Ferrous minerals are strong and are used in heavy machinery.	2. Nonferrous material is relatively fragile and cannot be used in very heavy machinery.
3. For example: Iron, manganese and chrome.	3. For example: Gold, silver, copper etc.

### Question 4 D:

Metallic and Non-metallic Minerals:

**Answer:**

Metallic Minerals	Non – metallic Minerals
1. Metals are extracted from them.	1. They do not contain metal.
2. They are malleable and ductile.	2. They are not malleable and ductile.

3. These minerals are associated with igneous and metamorphic rocks.	3. They are associated with sedimentary rocks.
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**Question 5 A:**

Use pictures from old magazines to show different kinds of fuels used by us in our lives a display them on your bulletin board.

**Answer:**

Do yourself and take the help of your subject teacher.

**Question 5 B:**

Design a poster highlighting energy conversation tips you would take for your school.

**Answer:**

Do it yourself with the help of your subject teacher.

**Question 5 C:**

Salman’s class took up an action campaign to do an energy audit of their school by surveying electricity consumption. They prepared survey sheets for the students of the school.

Electricity Audit

SI Appliance No.	Quantity (No. being used)	Usage Time (Approx. No. of working hours)	Is it switched on even when not in use (Yes or No)
1. Florescent Tube light 40 W			
2. Incandescent Bulb 40 W/60W			

3. Co- impact Flaorescent lamps			
4. Fans			
5. Exhaust fans			
6. Electric bell/buzzer			
7. T.V.			
8. Computers			
9. Air – Conditioners			
10. Refrigerators			
11. Oven/Hot case			
12. Public address systems			
13. Water pump/ Water cooler			
14. Overhead projector			
15. Photo state Machine			
16. Any other			

**Answer:**

Do yourself and take the help of your subject teacher.