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CHAPTER-5

COAL AND PETROLEUM

Notes→

* Natural Resources→ The materials that are useful to us in fulfilling our basic needs are called Natural Resources.

* TYPES OF Natural Resources

Natural Resources can be broadly classified into (i) Inexhaustible
(ii) Exhaustible

i) Inexhaustible Natural Resources— These resources are present in unlimited quantity in nature and are not likely to be exhausted by human activities.
Example- Sunlight, air, water, rainfall, clay and sand.

ii) Exhaustible Natural Resources— These resources are present in limited quantity in nature are likely to be exhaust over a certain period of time by human activities
Example— Forests, Wildlife, Minerals, Coal, Petroleum and Natural Gas.

* Type of Exhaustible Natural Resources-

Exhaustible Natural Resources are of two kinds- Renewable and Non-Renewable

Renewable Resources -

The resources that can replenish themselves by quick recycling and replacement within a reasonable time, if managed properly, are called Renewable resources.

Example- Soil, Forest, Wildlife

Non-renewable Resources -

Resources that can't replenish themselves by quik recycling and replacement within a resp reasonable time is called non-renewable Resources.

Example- Coal, Petroleum and Natural Gas.

* Fuel -

The material that are burnt to produce power or heat enery is called Fuels.

* Fossils -

-The remain of dead plants and animals buried under the earth million of years ago, are called fossils.

* Carbonisation -

The slow chemical process of the conversion of the dead vegetation (remains of dead plants) into coal, under

the influence of high temperature and pressure called carbonisation.

Sir: What is meant by 'Destructive Distillation of Coal'?

* Destructive Distillation - It is the process of breaking of coal by heating it to a high temperature in the absence of air.

$$\text{Coal} \xrightarrow[\text{in absence of air}]{\text{strong Heating}} \text{Coke} + \text{Coal tar} + \text{Coal gas} + \text{Ammonium liquor}$$

* Petroleum → Petroleum is a dark-coloured and thicky oily liquid. It has an unpleasant smell. In Greek language, 'petra' means 'rock' and 'oleum' means 'oil'. So, the word 'petroleum' means 'oil from rocks'.

* Drilling Rigs - Petroleum is obtained by drilling holes (called oil wells) into the earth's crust by machines called 'drilling Rigs'

* Refining of Petroleum - The process of separating various constituents or useful fractions of petroleum is called refining of Petroleum.

* Petrochemicals - Many useful substances that are obtained from petroleum and

natural gas are called Petrochemicals.

* Natural Gas-

Natural gas is an important fossil fuel that occurs deep inside the earth, between two layers of non-porous rock [impervious rock] either alone or above the petroleum deposits.

Short Answers (I and II) -

Q-1 What is meant by Carbonisation?

Ans-1 Carbonisation-

The slow chemical process of the conversion of the dead vegetations (remains of dead plants) into coal, under the influence of high temperature & pressure is called Carbonisation.

Q-2 Give any two uses of coal?

Ans-2 Uses of Coal →

① Coal is used to manufacture coke

② It is used to manufacture ammonium liquor.

Q-3 Give two limitation of Fossil Fuels?

Ans-3 Limitation of fossil fuels →

① Limited availability →

These resources can't replenish themselves by quick recycling and replacement with in a reasonable time.

② Air pollution →

Burning of fossil fuels produce gases like carbon dioxide, carbon monoxide, sulpher dioxide and smoke. These gaseous products and smoke causes air pollution

Q-4 What is meant by 'Refining of Petroleum'?

Ans 4 Refining of Petroleum -

The process of separating various constituents or useful fractions of petroleum is called Refining of Petroleum.

Q-5 Why is petroleum called 'Black Gold'?

Ans 5 Due to its great commercial importance, petroleum is also called 'Black Gold'.

Q-6 What are petrochemicals? Write their two uses?

Petrochemical -

Many useful substance that are obtained from petroleum and natural Gas are called Petrochemicals.

Uses -

① They are used in manufacture of synthetic fibres.

② They are used to make substance like - dyes, rubber, plastics etc....

Q-7 How do fossil fuels cause air pollution?

Ans. Burning of fossil fuels produce gases like carbon dioxide, carbon monoxide, sulpher dioxide and smoke. These gaseous products and smoke causes air pollution.

Q-8 Nikita goes with her father to a car showroom. Her father is confused to buy a CNG model or petrol model.

a What would you suggest him & why?

Ans. We will suggest him to buy CNG model because it is less polluting.

b. What do you learn from his wise choice?

Ans. We learn from his wise choice that he is consoul about environment.

Q-9(a) What is meant by 'Destructive Distillation of Coal'?

Ans. Destructive Distillation of Coal — In Notes

Reaction

$$\text{Coal} \xrightarrow[\text{in absence of air}]{\text{strong heating}} \text{Coke} + \text{Coal Tar} + \text{Coal Gas} + \text{Ammonical liquor}$$

(b) What are the products obtained by the Destructive destillation of Coal?

Ans. Product obtained by the destructive distillation of Coal vare → Coke, Coal Tar, Coal Gas and Ammoniacal liquor.

Long Answers —

Q-1 (a) How is petroleum formed?

Ans. Formation of Petroleum —
Petroleum was formed by the decomposition of dead remains of plants and animals buried under the sea, millions of year ago.

(b) How do we obtain it?

Ans. Petroleum is obtained by drilling holes into the earth's crust by machines called 'drilling rigs'.
Pipes are inserted uhtill they reach the petroleum deposit. Due to high internal pressure of natural gas, crude oil gushes out of the pipes. By using certain pumps, petroleum is pumped out.

Q-2 Distinguish between inexhaustible natural resources & exhaustible natural resources on the basis of the following parameters: (a) availability and (b) effect of human activities.
Give two examples of inexhaustible and exhaustible natural Resources.

Ans 2.-

Parameters	Exhaustible	Inexhaustible
Availibility	These resources are present in limited quantity in nature.	These resources are present in unlimited quanti-ty in nature.
Effect of Human Activities	Exhaustible reso-urces are greatly affected by human activities. They can be exhausted due to human consuption.	Inexhaustible resources are not affected by human activities
Example	Coal & Petroleum	Air, Sunlight

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