

CH-3

COAL AND PETROLEUM

I. SHORT ANSWER TYPE QUESTIONS:

1. Which is a better fuel - coal or coke? Why? (TB Q.1)

Ans. Coal and coke both are fuels, but coke is considered to be a better fuel than coal because of the following reasons:

- * Coke has higher calorific value than coal.
- * Coke produces more heat than coal on burning an equal mass of both.
- * Coke burns with an almost smokeless flame and does not produce smoke during burning.
- * Complete combustion takes place in case of coke. so, coke produces less air pollution as compared to coal.

2. Is crude oil a mixture or a compound? Explain. (TB Q.4)

Ans. Crude oil is not a compound, it is a mixture of many compound like gas, petrol, diesel, kerosene, lubricating oil, paraffin wax, etc.

The reason why we call crude oil a mixture is because,

* The constituents of crude oil does not chemically bond each other.

* The mixtures can easily be separated using a physical process called fractional distillation at refinery.

Hence crude oil is a mixture.

3. Define the term 'Petrochemicals'.

Ans: Petrochemicals are the substances obtained from petroleum and natural gas. They are used in the manufacture of detergents, fibres, polythene etc.

4. Give a brief description about peat.

Ans: *

- Peat is the most inferior and softest form of coal.
- Its carbon content is very low - 20% to 25%.
- It has a large amount of moisture and is not much suitable to be used as fuel.

I. LONG ANSWER TYPE QUESTIONS:

1. Why should we use fossil fuels only when absolutely necessary?

Ans: *

- Burning of fossil fuels affects the environment due to the release of carbon dioxide and other harmful gases.
- These gases trap heat in the earth's atmosphere and causes global warming.
- It takes millions of years for the dead organisms to get converted into these fuels.
- On the other hand, the known reserves of these fuels will last only a few hundred years.

Therefore it is necessary to conserve these natural resources.

II. HIGHER ORDER THINKING SKILLS:

1. Comment on the statement "Fossils in your car".

Ans: "Fossils in your car" - this statement tells that the

Fuels that we use in our vehicle - petrol, diesel and CNG - are fossil fuels. The natural fuels formed from the remains of living organisms buried under the earth millions of years ago are called as fossil fuels.

2. What is meant by the anaerobic thermal degradation of wood? Where does this process occur?

Ans. Anaerobic thermal degradation is a slow conversion process of wood into coal under the influence of high temperature, high pressure and in the absence of air, is termed as carbonisation. It may take thousands of years to take place.

This process occurs inside the earth and coal is formed by anaerobic thermal degradation of the cellulosic material of big plants/trees which got buried inside the earth millions of years ago.

3. Petroleum occurs deep inside the earth floating over water. Which two properties of petroleum makes it possible to form a separate layer over water?

Ans. The two properties are as follows:

- * Petroleum is immiscible with water, i.e. it cannot be mixed with water.

- * Petroleum oil is less denser than water, so it forms a layer above water.

4. How does planting of trees on large scale help in reducing the pollution caused due to the burning of fossil fuels?

Ans. If trees are planted in large scale, the carbon dioxide

gas present in atmosphere are absorbed by plants for photosynthesis.

Plants absorb carbon dioxide produced by burning fossil fuels and help in reducing the pollution.

X ————— X

I SHORT ANSWER QUESTIONS:

Q2: Pg.no: 61

Q3: Pg.no: 62

Q5: Pg.no: 66

Q6: Pg.no: 70

II LONG ANSWER TYPE QUESTIONS:

Q1: Pg.no: 59

Q2: Pg.no: 60

Q3: Pg.no: 63

Q4: Pg.no: 64

Solution		A	B	C	D
Blue litmus	Reddish	Deep Red	No change	No change	Moist
Red litmus	No change	No change	Blue	Moist	

Which of these is a strongly acidic & weakly acidic?
* Neutral & Basic?
Which of the two solutions will react to illustrate the neutralisation reaction?

A: Strongly acidic
B: Weakly acidic
C: Neutral
D: Basic