

Exercise Questions

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1. What are the advantages of using CNG and LPG as fuels?

Soln:

The advantages of using CNG and LPG as fuels are as follows:

- CNG and LPG burn easily.
- CNG and LPG give a lot of heat energy when burnt.
- CNG and LPG can be transported easily through pipelines.
- CNG and LPG are clean fuels and they do not release smoke when burnt.

2. Name the petroleum product used for surfacing of roads.

Soln:

Bitumen is used for surfacing of roads.

3. Describe how coal is formed from dead vegetation. What is this process called?

Soln:

Dense forests got buried under the soil due to natural processes, millions of years ago. More and more soil got deposited over them and they got more compressed. This led them to get exposed to very high temperature and pressure. They slowly got converted into coal under these extreme conditions. The whole process of formation of coal from dead vegetation is known as carbonization.

4. Fill in the blanks.

- (a) Fossil fuels are _____, _____, and _____ .
- (b) The process of separation of different constituents from petroleum is called _____ .
- (c) The least polluting fuel for a vehicle is _____ .

Soln:

- (a) Fossil fuels **Coal, Petroleum**, and **natural gas**.
- (b) The process of separation of different constituents from petroleum is called **refining**.
- (c) The least polluting fuel for a vehicle is **Compressed Natural Gas (CNG)**.

5. Tick True/False against the following statements.

- (a) Fossil fuels can be made in the laboratory. (T/F)
- (b) CNG is a more polluting fuel than petrol. (T/F)
- (c) Coke is the most pure form of carbon. (T/F)
- (d) Coal tar is a mixture of various substances. (T/F)

(e) Kerosene is not a fossil fuel. (T/F)

Soln:

- a) False
- b) False
- c) True
- d) True
- e) False

6. Explain why fossil fuels are exhaustible natural resources.

Soln:

The process of formation of fossil fuels requires millions of years. Dead vegetation and animals that get buried deep inside the earth require high temperature and pressure for the formation of fossil fuels, which cannot be done in the laboratory. Thus, fossils are limited. Therefore, the use of fossil fuels at a rapid rate will lead to their exhaustion.

7. Describe the characteristics and uses of coke.

Soln:

Characteristics:

- i) Coke is tough.
- ii) Coke is porous.
- iii) Coke is black in colour.

Uses:

- i) In the manufacture of steel.
- ii) In the extraction of metals (as a reducing agent).

8. Explain the process of the formation of petroleum.

Soln:

Dead organisms that got buried in the sea millions of years ago got covered with layers of sand and clay. Due to lack of air, high temperature and high pressure, these dead organisms got transformed into petroleum and natural gas.

9. The following table shows the total power shortage in India from 1993–1999. Show the data in the form of a graph. Plot shortage percentage for the years on the Y-axis and the year on the X-axis.

S.No.	Year	Shortage (%)

1.	1993	7.7
2.	1994	7.5
3.	1995	8.2
4.	1996	7.1
5.	1997	7.7
6.	1998	9.1
7.	1999	11.2

Soln:

