

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

Sol. Advantages of using compressed natural gas (CNG) and liquified petroleum gas (LPG) as fuels are:

- They can be burnt directly.
- They can be transported easily through pipe lines.
- They are clean fuels and do not give smoke when burnt.
- They give a lot of heat energy when burnt.

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

Sol. Bitumen, a petroleum product, is used for surfacing roads.

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

Sol. Millions of years ago, dense forests got buried under the soil due to natural processes like storms, floods, and earthquakes. These got compressed as more and more soil got deposited over them. When they got buried deep in the soil, they were exposed to very high pressure and temperature. Under these conditions, these slowly got converted into coal. This process of formation of coal from dead vegetation is called carbonization.

4. Fill in the blanks.

- Fossil fuels are _____, _____ and _____.
- Process of separation of different constituents from petroleum is called _____.
- Least polluting fuel for vehicle is _____.

Sol.

- coal, petroleum and natural gas.
- refining.
- compressed natural gas (CNG).

5. Tick True/False against the following statements.

- Fossil fuels can be made in the laboratory.
- CNG is more polluting fuel than petrol.
- Coke is almost pure form of carbon.
- Coal tar is a mixture of various substances.
- Kerosene is not a fossil fuel.

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- False
- False
- True
- True
- False

6. Explain why fossil fuels are exhaustible natural resources.

Sol. Fossil fuels require millions of years to form from the dead vegetation and animals that get buried deep inside the earth. They require high temperature and pressure for their formation, which cannot be provided in the laboratory. Thus, fossils are limited. Therefore, the use of fossil fuels at this rate will lead to their exhaustion.

7. Describe characteristics and uses of coke.

Sol. Characteristics of coke are:

- (i) Tough
- (ii) Porous
- (iii) Black in colour

Use of coke:

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

8. Explain the process of formation of petroleum.

Sol. Petroleum was formed from dead organisms that got buried in the sea millions of years ago. These dead bodies got covered with layers of sand and clay. Lack of air, high temperature, and high pressure transformed these dead organisms into petroleum and natural gas.

9. The following Table shows the total power shortage in India from 1991–1997. 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.

Year	1991	1992	1993	1994	1995	1996	1997
Shortage (%)	7.9	7.8	8.3	8.7	8.1	9.2	11.5

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