

Coal & Petroleum

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

Sol. There are lots of advantages of using CNG and LPG as fuels are as follows:

- (i) They are very less polluting fuels.
- (ii) They are cleaner fuel.
- (iii) They can be used directly for burning in homes and factories.
- (iv) It is easy to store and transport through pipes .
- (v) CNG is used for power generation.

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

Sol. Bitumen is the petroleum product used for surfacing of roads.

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

Sol. About millions of years ago, there were dense forests on the earth. As a result of natural disasters like floods and earth quakes these forests got buried under the soil. Eventually, layers of soil got deposited over them and compressed them. The high pressure and temperature over these buried forest converted them into coal. As coal contains mainly carbon, the slow process of conversion of dead vegetation into coal is called carbonisation.

Q.4 Fill in the blanks:

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

Sol. (a) Fossil fuels are **Natural Gas, Coal** and **Petroleum**.

(b) Process of separation of different constituents from petroleum is called **refining**.

(c) Least polluting fuel for vehicle is **CNG**.

Q.5 Tick True/False against the following statements:

- (a) Fossil fuels can be made in the laboratory. (T/F)
- (b) CNG is more polluting fuel than petrol. (T/F)
- (c) Coke is almost 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)

Sol. (a) Fossil fuels can be made in the laboratory. (F)

(b) CNG is more polluting fuel than petrol. (F)

(c) Coke is almost pure form of carbon. (T)

(d) Coal tar is a mixture of various substances. (T)

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

Q.6 Explain why fossil fuels are exhaustible natural resources.

Sol. Fossil fuels are formed due to the action of high temperature and high pressure on the remains of dead plants and animals buried in the soil over a period of millions of years. These fossil fuels are exhaustible natural resources because if these are exhausted by human activities they cannot be recreated in a short period of time or cannot be synthesized in the laboratory.

Q.7 Describe characteristics and uses of coke.

Sol. The coke is a tough, porous and black coloured substance which is formed from destructive distillation of coal and it is almost pure form of carbon. The use of coke is in the manufacturing of steel and in the extraction of many metals.

Q.8 Explain the process of formation of petroleum.

Sol. Petroleum is formed from organisms living in the sea. As these organisms died, their body settled down at the bottom of the sea and gets covered with sand and clay. The absence of air, high pressure and high temperature for over millions of years and then transforms the dead organisms into petroleum and natural gas.

Q.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.

S.No.	Years	Shortage (%)
1	1991	7.9
2	1992	7.8
3	1993	8.3
4	1994	7.4
5	1995	7.1
6	1996	9.2
7	1997	11.5

Sol: Following is the graph the total power shortage in India from 1991 – 1997. The x-axis represents the 'Year' and the y-axis represents the 'Shortage (%)'.

