

CBSE Class 8 Science Chapter 5 Coal and Petroleum
Objective Questions

1. Read the following statements and select the correct ones. A. Coal, petroleum and natural gas are fossil fuels. B. Coal and natural gas are exhaustible resources. C. Coke is used in the manufacture of steel. D. Fossil fuels are present in limited quantities.

- A. A and B
- B. A, B, C and D
- C. A, B and C
- D. A and D

Answer: (B) A, B, C and D

Solution: Fossil fuels are formed from the carbonisation of organic matter. These resources take a very long time to be formed and are not renewable easily. Hence, fossil fuels are present in limited quantities and are exhaustible. Coal, petroleum, natural gas, etc are examples of fossil fuels. Steel is an alloy of iron and the formation of steel requires carbon (typically in form of coke).

2. The slow process of conversion of dead vegetation into coal is called _____.

- A. decomposition
- B. evolution
- C. carbonification
- D. carbonisation

Answer: (D) carbonisation

Solution: Plants contain mainly carbon, which gets converted into coal. Hence, the slow process of conversion of dead vegetation into coal is called carbonisation.

3. Identify the gas that is generally produced when coal is burnt in the presence of a lot of air.

- A. Carbon monoxide
- B. Sulphur dioxide
- C. Nitrogen dioxide
- D. Carbon dioxide

Answer: (D) Carbon dioxide

Solution: Coal is mainly composed of carbon. When coal is burnt in the presence of air, carbon reacts with oxygen gas that is present in air (atmosphere) and produces carbon dioxide gas (CO_2).

When carbon (coal) is burnt in limited presence of oxygen, carbon monoxide (CO) is produced.

4. Coke is used in the manufacture of _____.

- A. sodium
- B. mercury
- C. steel
- D. pottassium

Answer: (C) steel

Solution: Coke is a pure form or allotrope of carbon. It is used in the manufacture of steel, as a fuel and as a reducing agent in extraction of various metals. Steel is an alloy of carbon and iron. Presence of carbon in the steel makes it harder and more durable than pure iron.

5. Identify the substance which is tough, porous and black. It is almost a pure form of carbon.

- A. Crude oil
- B. Coke
- C. Coal tar
- D. Coal gas

Answer: (B) Coke

Solution: Coke is a tough, porous and black substance. It is almost a pure form of carbon. It is used in the manufacture of steel and also in the extraction of many metals.

6. Which of the following is used in metal extraction?

- A. Coke
- B. Petroleum
- C. Coal gas
- D. Coal tar

Answer: (A) Coke

Solution: Coke is a form of carbon and is used for metal extraction. A metal below carbon in the reactivity series (zinc to silver) may be extracted from its oxide ore by heating the ore with carbon. Coke is used because it is cheap and readily available. This form of extraction is less expensive than methods like electrolysis.

7. Which amongst the following is used in the manufacturing of perfumes?

- A. Coal tar
- B. Coal gas
- C. Coke
- D. Kerosene

Answer: (A) Coal tar

Solution: Coal tar, obtained from coal, is used in the manufacturing of perfumes.

8. Which of these is an exhaustible resource?

- A. Air
- B. Coal
- C. Water
- D. Sunlight

Answer: (B) Coal

Solution: Inexhaustible resources have an endless supply. Coal has limited reserves and is a depleting resource. Coal and petroleum were formed from the degradation of biomass

millions of years ago and hence these resources will be exhausted in future no matter how carefully we use them.

9. Which of the following is an example of inexhaustible resources?

- A. Coal
- B. Wind
- C. Petrol
- D. Diesel

Answer: (B) Wind

Solution: Inexhaustible resources are the resource that is present unlimited in nature. Wind is considered as renewable and inexhaustible source of energy because it has an endless supply. Coal, petrol and diesel are considered as an exhaustible resource because of its finite quantity in existence.

10. In India, which association advises people on saving petrol or diesel while driving?

- A. Petroleum Conservation Research Association (PCRA)
- B. Coal Conservation Research Association (CCRA)
- C. Eco-driving advice
- D. Petroleum Conservation Association (PCA)

Answer: (A) Petroleum Conservation Research Association (PCRA)

Solution: In India, the Petroleum Conservation Research Association (PCRA) advises people on saving petrol/diesel while driving. The **Petroleum Conservation Research Association** (PCRA) is an organization established in India in 1978, under the aegis of the Indian Ministry of Petroleum and Natural gas, engaged in promoting energy efficiency in various sectors of the economy. It helps the government in proposing policies and strategies aimed at reducing India's dependency on oil, in order both to save money and to reduce the environmental impact of oil use.

11. Which amongst the following is a petroleum product which can be used in metalling of roads?

- A. Coke
- B. Bitumen
- C. Coal tar
- D. Coal gas

Answer: (B) Bitumen

Solution: Bitumen is a constituent of petroleum which is obtained as a residue from the distillation of crude oil and can be used as a substitute of coal tar in metalling the roads.

12. Which of these is used as a solvent for dry cleaning?

A. Bitumen

B. Paraffin wax

C. Petrol

D. Kerosene

Answer: (C) Petrol

Solution: Petrol is used as motor fuel, aviation fuel and solvent for dry cleaning.

13. Many useful substances are obtained from petroleum and natural gas. Select the correct name given to these substances.

A. Petromolecules

B. Petrocompounds

C. Petrochemicals

D. Petroproducts

Answer: (C) Petrochemicals

Solution: Petrochemicals are also called petroleum distillates. These are chemical compounds derived from petroleum and natural gas. Products such as gasoline, fertilisers, cosmetics, etc. are products made from or with the aid of petrochemicals. One cannot imagine life without petrochemicals.

14. Choose the correct option. Column A contains name of products of petroleum and column B contains their uses. Match them correctly

ColumnA	ColumnB
1. LPG (Liquefied petroleum gas)	A. Paints, road surfacing
2. Petrol	B. Fuel for home and industry
3. Bitumen	C. Ointments, candles, vaseline etc
4. Paraffin wax	D. Motor fuel, aviation fuel etc

A. 1 - D, 2 - C, 3 - B, 4 - A

B. 1 - B, 2 - D, 3 - A, 4 - C

C. 1 - A, 2 - B, 3 - C, 4 - D

D. 1 - B, 2 - D, 3 - C, 4 - A

Answer: (B) 1 - B, 2 - D, 3 - A, 4 - C

Solution: The correct order for the uses of petroleum products is:

ColumnA	ColumnB
1. LPG (Liquefied petroleum gas)	B. Fuel for home and industry
2. Petrol	D. Motor fuel, aviation fuel etc
3. Bitumen	A. Paints, road surfacing
4. Paraffin wax	C. Ointments, candles, vaseline etc

15. Petrol/diesel cannot be saved by:

A. ensuring correct tyre pressure

B. ensuring regular maintenance of the vehicle

C. ensuring the engine is turned on always

D. driving at a constant and moderating speed

Answer: (C) ensuring the engine is turned on always

Solution: In India, the Petroleum Conservation Research Association (PCRA) advises people on how to save petrol/diesel while driving. Their tips are: Drive at a constant and moderate speed as far as possible, switch off the engine at traffic lights or at a place where you have to wait, ensure correct tyre pressure, and regular maintenance of the vehicle. But keeping the engines on always would increase the consumption.

16. Which of the following is also known as the 'black gold'?

A. CNG

B. Natural gas

C. Coal

D. Petroleum

Answer: (D) Petroleum

Solution: Petroleum has great commercial importance, due to which it is also called the 'black gold'. Many useful substances are obtained from petroleum. These are termed as

'Petrochemicals'. These are used in the manufacture of detergents, fibres (polyester, nylon, acrylic, etc.), polythene and other manmade plastics.

17. Which of these is used for making naphthalene balls?

- A. Coal tar
- B. Petroleum
- C. CNG
- D. Paraffin

Answer: (A) Coal tar

Solution: Coal tar is a black, thick liquid with unpleasant smell. Naphthalene balls are used to repel moths and other insects, and are also obtained from coal tar. Other products that are obtained from coal tar are synthetic dyes, drugs, explosives, perfumes, plastics, paints, photographic materials, roofing materials, etc.

18. Assertion: Coal gas is a mixture of methane, hydrogen and carbon monoxide. Reason: It is obtained when coal is burnt in excess of air.

- A. Assertion is incorrect but the reason is correct.
- B. Assertion is correct but the reason is incorrect
- C. Both assertion and reason are correct, but the reason is not the correct explanation of assertion.
- D. Both assertion and reason are correct and the reason is the correct explanation of assertion.

Answer: (B) Assertion is correct but the reason is incorrect

Solution: Coal gas is obtained by the destructive distillation of coal. The destructive distillation process involves heating of powdered coal in the absence of air. The composition of coal gas varies but the main components are hydrogen, methane and carbon monoxide. Thus, the assertion is correct but the reason is an incorrect statement.

19. Which of the following are the products obtained from coal?

- 1) Coal tar
- 2) Petrol
- 3) Coal gas
- 4) Ammonical liquor

5) Paraffin wax

6) Coke

A. 1, 3, 4, 6

B. 1, 2, 4, 6

C. 1, 3, 4, 5

D. 1, 2, 3, 4

Answer: (A) 1, 3, 4, 6

Solution: The products of coal are as follows:

1. Coal tar: Used for making drugs, dyes, perfumes, paints etc.

2. Coal gas: Used as an industrial fuel.

3. Ammonical liquor: Used in various industries for making chemicals, fertilisers etc.

4. Coke: Used in manufacturing of steel and extraction of many metals.

20. Petrochemicals are used in the manufacturing of :

A. All of these

B. Fibres

C. Detergents

D. Polythene

Answer: (A) All of these

Solution: Crude petroleum after fractional distillation produces chemical products called petrochemicals. These petrochemicals are organic compounds (carbon based compounds) of either long-chain polymers or cyclic structures. Polyethene, detergents, and fibres are all organic compounds. These products are among the many products derived from petrochemicals.

21. Pavani is very conscious about pollution. So, to reduce the effect of pollution which fuel should she use for her vehicle?

A. Diesel

B. Petrol

C. LPG

D. CNG

Answer: (D) CNG

Solution: CNG (Compressed Natural Gas) is now used as a fuel for transport vehicles because it is less polluting. Compressed Natural Gas (CNG) (methane stored at high pressure) can be used in place of gasoline (petrol), Diesel fuel and propane (LPG). CNG combustion produces fewer undesirable gases than the fuels mentioned above.