

QUESTION BANK

COAL AND PETROLEUM

Q.1. Make a list of various materials used by us in daily life and classify them as natural and man-made materials

Ans.

Natural Material	Man-made material
Air	Table
Soil	Chair
Water	Car
Sunlight	Bus
CNG	TV
LPG	Plastic
Coal	Rubber
Petrol	Food
Fruits	Bed
Minerals	Blackboard

Q.2. Does this list include air, water, soil and minerals?

Ans. Yes, this list contains, air, water, soil and minerals.

Q.3. Can we use all our natural resources forever?

Ans. No, we cannot use all our natural resources forever, because these are going to exhaust one day.

Q.4. Can air, water and soil be exhausted by human activities?

Ans. No, these can not be exhausted at all.

Q.5. Is water a limitless source?

Ans. Yes, water is a limitless source, but by unwise use and cutting of trees, sources of water can be finished.

Q.6. What are the advantages of using CNG and LPG as fuels?

Ans. The advantages of using CNG and LPG:

- (i) CNG and LPG are clean fuels.
- (ii) Their cost is low.
- (iii) They can be used directly for burning.
- (iv) They are easily available.
- (v) They do not produce pollution.

Q.7. Name the petroleum product used for surfacing of roads.

Ans. Bitumen is the petroleum product which is used for surfacing of roads these days.

Q.8. Describe how coal is formed from dead vegetation. What is this process called?

Ans. About 300 million years ago the earth had dense forest in low lying wetland areas. Due to various natural processes, like flooding and earthquakes, these forests got buried under the soil. The soil deposits layer by layer over them, they were compressed. Under high temperature and pressure the plants got converted to coal slowly. This process is called carbonisation.

Q.9. 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 vehicles is _____.

Ans. (a) Coal, Petroleum and Natural gas

(b) Refining

(c) Compressed Natural Gas (CNG).

Q.10. True/False.

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

(b) CNG is more polluting fuel than petrol.

(c) Coke is almost pure form of carbon.

(d) Coaltar is a mixture of various substances.

(e) Kerosene is not a fossil fuel.

Ans. (a) False (b) False (c) True (d) True (E) False.

Q.11. Explain why fossil fuels are exhaustible natural resources.

Ans. Fossil fuels are present in limited quantity in the nature. They can be exhausted by human activities.

So fossil fuels are called exhaustible natural resources.

Q.12. Describe characteristics and uses of coke.

Ans. Characteristic of coke:

(i) Coke is tough.

(ii) It is porous and black substance.

(iii) It is an almost pure form of carbon.

Uses: Coke is used in the manufacture of steel and in the extraction of many metals.

Q.13. Explain the process of formation of petroleum.

Ans. Petroleum was formed from organisms living in the sea. As these organisms died, their bodies settled at the bottom of the sea. These bodies got covered with layers of sand and clay. Over millions of years, in the absence of air, and under high temperature and pressure the dead bodies are converted into petroleum and natural gas.

Q.14. What does CNG stand for and why is it considered to be a better fuel than petrol?

Ans. CNG stands for compressed natural gas, and it is a better fuel than gasoline because it is an environmentally friendly gas that does not hurt the environment. In addition, it emits substantially less smoke.

Q.15. Fill in the blanks in the following sentences.

- (a) Coal is one of the _____ used to cook food.
- (b) When heated in air, coal burns and produces mainly _____ gas.
- (c) Coal tar is a black, thick _____ with an _____ smell.
- (d) Petroleum, _____ and _____ are fossil fuels.
- (e) Forests and coal are _____ natural resources.

Answer:

- (a) Coal is one of the fuels used to cook food.
- (b) When heated in air, coal burns and produces mainly Carbon dioxide gas.
- (c) Coal tar is a black, thick liquid with an unpleasant smell.
- (d) Petroleum, coal and natural gas are fossil fuels.
- (e) Forests and coal are exhaustible natural resources.

Q.16. Write True/False against the following statements.

- (a) Oxygen in air is an exhaustible natural resource.
- (b) Resources which are present in unlimited quantity in nature are called exhaustible natural resources.
- (c) Wildlife is an exhaustible natural resource.
- (d) Under high temperature and pressure, dead plants get slowly converted to coal.
- (e) CNG is less polluting fuel than petrol and diesel.

Answer:

(a) False.

Because oxygen can be reused, oxygen in the air is an inexhaustible natural resource.

(b) False.

Resources which are present in unlimited quantity in nature are termed inexhaustible natural resources.

(c) True.

Wildlife is an exhaustible natural resource.

(d) True.

Under high temperature and pressure, dead plants get slowly converted to coal.

(e) True.

CNG is less polluting fuel than petrol and diesel.

Short Answer Type Questions

Q1: Sunlight and air are inexhaustible natural resources. Comment.

Answer:

Natural resources which are inexhaustible are those whose quantity is not based on consumption or is not subject to scarcity. The amount of sunlight and air available is unaffected by human consumption. This is why these natural resources are inexhaustible.

Q2: Some natural resources are given in a box. Classify them into the exhaustible and inexhaustible natural resources.

air, coal, natural gas, sunlight, petroleum, minerals, forests, oxygen.

Answer:

Exhaustible resources are coal, natural gas, petroleum, minerals, forests.

- They are in limited supply and are being depleted by human activity.
- These resources can't be replenished once they've been depleted.
- Non-renewable or non-replenishable resources are those that cannot be replenished.
- They, like iron and coal, require conservation measures to ensure that they can be used in the future.

Inexhaustible resources are air, sunlight, oxygen.

- They exist in an infinite supply and cannot be depleted by human activity.
- These resources have the power to regenerate themselves over time.
- These are resources that can be replenished or are renewable.
- They do not require conservation measures because they can be renewed, such as sunlight and water.

Q3: Write two important uses of coke.

Answer:

Coke is a high-carbon substance made by distilling coal in a destructive manner.

Coke is mostly used as a fuel for stoves, furnaces, and blacksmithing. Because coke creates very little smoke, it is sometimes preferred over coal.

- It is also utilised to produce iron in a blast furnace.
- Steel and a variety of other products are made from coke.
- It is used as a reducing agent in the process of metal extraction. Zinc and iron, for example.

Q4: Write the characteristics and some important uses of coal.

Answer:

Coal is a black, stone-like substance. It's one of the fuels used in the kitchen. It was once employed in railway engines to generate steam to

power them. It is used as a fuel in thermal power plants, as well as in a variety of other sectors.

- Coal is one of the fossil fuels.
- It's a brittle and flammable fuel.
- It has a lot of carbon in it.
- It is an energy source.

The important uses of coal are as follows-

- It is used to generate energy and as a cooking fuel in households.
- It's used to make coal gas and coke.
- Coal is also used in the manufacture of specialised products including activated carbons, carbon fibre, and silicon metals.

Long Answer Type Questions

Q1: Name the products obtained and their uses when coal is processed in industry.

Answer:

During coal processing, the following items are produced:

Coal tar is used to make synthetic pharmaceuticals, explosives, fragrances, paints, and plastics, among other things.

Coke is a substance that is used to make steel and extract metals.

Coal gas is a fuel that is used in industry.

Q2: We say fossil fuels will last only for a few hundred years. Comment.

Answer:

The creation of fossil fuels takes a very long time. It also requires special circumstances, which aren't common. As a result, their limited supply will only endure a few hundred years. Fossil fuels are exhaustible resources. Nature has a limited supply of these resources. Human activities have the

potential to deplete them. Forests, wildlife, minerals, coal, petroleum, natural gas, and other resources are examples of these resources.

Petroleum and coal are both fossil fuels. It took millions of years for dead organisms to be turned into these fuels. The known reserves of these, on the other hand, will last only a few hundred years. Furthermore, the burning of these fuels contributes significantly to air pollution. Their use contributes to global warming. As a result, we should only use these fuels when absolutely required. As a result, the environment will be improved, the risk of global warming will be reduced, and they will be available for a longer length of time.

Q3: We read in newspapers that burning of fuels is a major cause of global warming. Explain why.

Answer:

The use of fossil fuels in many regions has resulted in significant air pollution. Sulphur dioxide, carbon dioxide, and other hazardous gases are produced when fossil fuels are burned. The gases that vehicles, power plants, companies, residences, and other sources of pollution produce assist to raise the temperature of the environment and the earth by heating the atmosphere and air.

Q4: While driving what are the tips we must follow to save petrol/diesel/natural gas?

Answer:

Natural gas generates much lesser nitrogen oxides (NO_x) and particulate matter (PM) when burned than diesel or even gasoline. In addition, the combustion process is quieter. However, there is a more compelling reason to conserve fossil fuels, to contribute in environmental recovery.

1. Make sure the tyre pressure is correct.
2. Maintain the vehicle on a regular basis.
3. Maintain a consistent and moderate speed to save fuel waste.

4. At traffic signals or other places where you have to wait, turn off the motor.
5. When at all possible, avoid using the air conditioner. Air conditioners consume 10% more energy.
6. Replace the lubricant on a regular basis. Only use branded oil that has been suggested by the manufacturer.

Q5: Imagine that all the exhaustible natural resources are exhausted by human activities. Do you think survival of living beings would be possible? If yes, why?, If not, why not?

Answer:

It would be impossible for humans to survive if natural resources were not available. Fossil fuels are necessary for human survival. After oxygen, it is one of the most crucial factors in our lives. Fossil fuels are used to generate energy, which is used to power factories and provide all of the other necessities without which a human would perish. Apart from these, humans use fossil fuels to power their automobiles. Human life will come to a halt without fuel.

For example, forests are a significant natural resource that produces rain, prevents soil erosion, and floods, and provides oxygen and other valuable items. We can't picture what life would be like without them.

Fossil fuels, wildlife, forests, minerals, and other non-renewable natural resources are all important in our lives.

Q6: Why petrol is exhaustible natural resource, whereas sunlight is not? Explain.

Answer:

Petrol is a fossil fuel created by the breakdown of dead plants and animals inside the waters over millions of years. It can only be found in a handful of locations. This fossil fuel is converted into petrol, which is a precious commodity. Humans use it more ferociously the more restricted it is. Because of this, petrol is a finite resource. Sunlight, on the other hand, is a type of energy that the sun generates. A lot of energy is generated in this

process. And will carry on indefinitely, as long as the inhabitants of the Earth exist.

Q7: Write some important uses of the various constituents of petroleum.

Answer:

Petroleum has been used in some capacity. Petroleum is made up of sea-based creatures. As these organisms perished, their remains sank to the ocean's bottom, where they were buried in layers of sand and clay. Absence of air, high temperature, and high pressure turned dead organisms into petroleum and natural gas over millions of years. It has a variety of applications, including:

- Agriculture
- Detergents, Dyes, and Others
- Plastics, Paints and More
- Pharmaceuticals
- Rubber

Q8: Coal reserves are said to be enough to last for another hundred years. Do you think we need to worry in such case? Why or why not?

Answer:

Coal deposits are quite limited. A coal reserve is only good for about 100 years. Given the rate at which humans consume coal, it's unlikely that it will survive another 100 years.

The consumption of coal is steadily increasing. Coal is used extensively in everything from modest homes to large companies and power plants. As a result, coal is becoming scarce. This fossil fuel inside the earth takes millions of years to return to nature. However, the consumption is excessive, and it will not last long.

As a result, we should use coal with caution and responsibility. Apart from that, we should make use of other renewable energy sources.

Q9: What steps would you suggest for the judicious use of fossil fuels?

Answer:

Because fossil fuels are limited and only exist in small quantities in nature, they should be used with caution. Furthermore, fossil fuels take millions of years to produce.

Steps made to ensure that fossil fuels are used wisely:

- Make more use of public transportation.
- Don't throw your fossil fuels.
- While driving to school or work, we should consider carpooling.
- Renewable energy sources such as wind and solar power are being adopted.
- Instead of LPG, biogas is used as a fuel.
- Maintain the vehicle on a regular basis.
- At traffic signals or other places where you must wait, turn off the motor.