

Unit 5(Coal and Petroleum)

Multiple Choice Questions

Question. 1 Various materials which are obtained from nature are called natural resources.

Which of the following is not a natural resource?

- (a) Minerals (b) Water
(c) Soil (d) Plastic

Answer. (d) Minerals, water and soil are natural resources but plastic is a man-made material. So, plastic is not a natural resource.

Question. 2 Air is a natural resource and cannot be exhausted by human activities. It is known as inexhaustible natural resource. Which of the following is another inexhaustible natural resource?

- (a) Coal (b) Petroleum
(c) Sunlight (d) Minerals

Answer. (c) Sunlight, air and water are inexhaustible natural resources that means which cannot be exhausted by human activities.

Question. 3 Which of the following is a pair of exhaustible natural resources?

- (a) Coal and soil (b) Air and sunlight
(c) Water and petroleum (d) Wildlife and minerals

Answer. (d) Wildlife and minerals are exhaustible natural resources because these resources are present in a limited quantity in nature and can be exhausted by human activities.

Question. 4 Coal is processed in industries to get some useful products. Which of the following is not obtained from coal?

- (a) Coke (b) Coal tar
(c) Coal gas (d) CNG

Answer. (d) CNG (Compressed Natural Gas) is not obtained from coal.

under water.

Question. 5 Exhaustible natural resources are

- (a) unlimited in quantity (b) not dependent on nature**
- (c) limited in quantity (d) not exhausted by human activities**

Answer. (c) Exhaustible natural resources are present in a limited quantity in nature and can be exhausted by human activities.

Note Coal, petroleum, natural gas, minerals, forests and wildlife, etc are exhaustible natural resources.

Question. 6 Fossil fuels are obtained from

- (a) remains of non-living materials**
- (b) dead remains of birds only**
- (c) dead remains of insects only**
- (d) dead remains of living organisms**

Answer. (d) Fossil fuels are obtained from the remains of living organisms (plants and animals) buried under the earth millions of years ago.

Note Coal, petroleum and natural gas are fossil fuels.

Question. 7 Coal is formed from the remains of

- (a) vegetation only**
- (b) animals only**
- (c) both vegetation and animals**
- (d) neither vegetation nor animals**

Answer. (a) Coal is formed by the decomposition of large land plants and trees buried under the earth about 300 million years ago.

Question. 8 Which substance is formed by the carbonisation of dead vegetation?

- (a) Coal (b) Coke**
- (c) Coal gas (d) Coal tar**

Answer. (a) Coal is formed by the carbonisation of dead vegetation.

Question. 9 Naphthalene balls are obtained from coal tar and are used as

- (a) mosquito repellent (b) honeybee repellent**
- (c) moth repellent (d) snake repellent**

Answer. (c) Naphthalene balls are used to repel moths and other insects (in stored clothes, etc).

Question. 10 Which of the following is not a constituent of petroleum?

- (a) Paraffin wax (b) Lubricating oil**
- (c) Petrol (d) Coke**

Answer. (d) Coke is not a constituent of petroleum. Coke is prepared by heating coal in the absence of air.

Question. 11 Petroleum was formed from organisms

- (a) living on the land (b) living on the plants**
- (c) living in the sea (d) living on the rocks**

Answer. (c) Petroleum was formed by the decomposition of the remains of tiny plants and animals buried under the sea millions of years ago.

Question. 12 Choose the correct statement from the following.

- (a) It is difficult to transport natural gas through pipes**
- (b) The disadvantage of natural gas is that it cannot be used directly for burning in homes**
- (c) Natural gas is stored under high pressure as compressed natural gas**

(d) Natural gas cannot be used for power generation

Answer. (c) Natural gas is stored under high pressure as compressed natural gas.

Note: It is easy to transport natural gas through pipes and it can be used directly for burning in homes where it can be supplied through pipes. Natural gas is used for power generation.

Very Short Answer Type Questions

Question. 13 You are provided with a mixture of petroleum and water. Can you suggest a method to separate the two?

Answer. Decantation can be used to separate a mixture of petroleum and water. The mixture is allowed to stand. Petroleum is lighter than water, so it floats over water, Carefully, lighter layer of petroleum can be poured and separated without disturbing the heavier layer of water.

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

Answer. CNG stands for Compressed Natural Gas. It is considered to be a better fuel because it burns with a smokeless flame and causes no air pollution. It also does not produce any poisonous gases on burning.

Question. 15 Name the petroleum product used as fuel for stoves, lamps and jet aircrafts.

Answer. Kerosene is a petroleum product which is used as fuel for stoves, lamps and jet aircrafts.

Question. 16 Fill in the blanks.

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

Answer. (a) fuels
(b) carbon dioxide
(c) liquid, unpleasant
(d) coal, natural gas
(e) exhaustible

Question. 17 The underlined words in the following sentences have been jumbled up. Write them in their correct form.

- (a) Loca is obtained from mines.
- (b) Umpetlore is a fossil fuel.
- (c) Renrfvie is a place where various fractions of petroleum are separated.
- (d) Keen rose is a fuel used in jet crafts.
- (e) Nutsoilh is an example of inexhaustible natural resources.

Answer. (a) Coal (b) Petroleum
(c) Refinery (d) Kerosene
(e) Sunlight .

Question. 18 Fill in the blanks.

- (a) The slow process of conversion of dead vegetation into coal is called
- (b) Coal and petroleum are formed from the dead remains of organisms and are known as
- (c) The black thick liquid with smell is known as coal tar.
- (d) During the processing of coal to get coke, coal tar and are also obtained.
- (e) The process of separating the various constituents of petroleum is known as

(f) Excessive burning of fossil fuels is a major cause of

Answer. (a) carbonisation (b) fossil fuels

(c) unpleasant (d) coal gas

(e) refining (f) air pollution

Question. 19 Write True/False against the following statements.

(i) Oxygen in air is an exhaustible natural resource.

(ii) Resources which are present in unlimited quantity in nature are called exhaustible natural resources.

(iii) Wildlife is an exhaustible natural resource.

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

(v) CNG is less polluting fuel than petrol and diesel. .

Answer. (i) False, oxygen in air is an inexhaustible natural resource because oxygen can be used again and again.

(ii) False, resources which are present in unlimited quantity in nature are called as inexhaustible natural resources.

(iii) True

(iv) True

(v) True

Short Answer Type Questions

Question. 20 Sunlight and air are inexhaustible natural resources. Comment.

Answer. These resources are present in an unlimited quantity in nature and are not likely to be exhausted by human activities. There is a never ending supply of these resources in nature.

These resources can be used again and again. They last forever.

Question. 21 Some natural resources are given below. Classify them into the exhaustible and inexhaustible natural resources.

Air, coal, natural gas, sunlight, petroleum, minerals, forests, oxygen

Answer. Exhaustible natural resources are : Coal, natural gas, petroleum, minerals, forests.

Inexhaustible natural resources are : Air, sunlight, oxygen.

Question. 22 Write two important uses of coke.

Answer. (i) Coke is mainly used as a reducing agent in the extraction of metals (like iron, zinc, etc).

(ii) It is used in the manufacture of steel.

Question. 23 Write the characteristics and some important uses of coal.

Answer. Characteristics of coal are as follows:

(i) It is a hard, black combustible fuel.

(ii) It is a fossil fuel.

(iii) It mainly contains carbon.

(iv) When heated in air, it burns and produces mainly carbon dioxide gas.

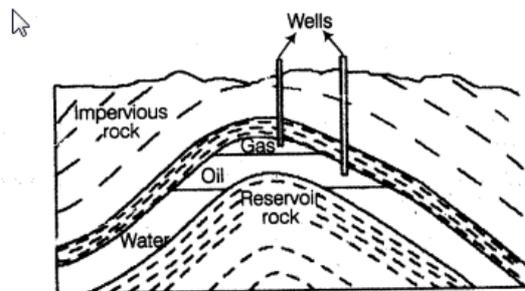
(v) It is a source of energy.

Some important uses of coal are as follows:

(i) It is used as a fuel in homes and industry and at thermal power plants for generating electricity.

(ii) It is used to make coal gas and coke.

Question. 24 Look at the figure where petroleum and natural gas deposits are shown. Why do we find oil layer above water layer?



Answer. Oil is lighter than water, hence floats over it.

Question. 25 Fill in the blanks and complete the story. About 300 million years ago, the earth had dense..... in low lying wetland areas. Due to natural processes like..... these forests got buried under the..... As more..... deposited over them, they were compressed. The..... also rose as they sank deeper and deeper. Under highand high....., dead plants got slowly converted into coal.

Answer. forests, floods, soil, soil, temperature, pressure, temperature.

Question. 26 Match the items given in Column I with the items of Column II.

Column I	Column II
(a) Used for road surfacing	(i) Black gold
(b) Natural gas	(ii) Vaseline and candles
(c) Petroleum	(iii) Bitumen
(d) Paraffin wax	(iv) CNG

Answer. The correct matching is as given:

(a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)

Long Answer Type Questions

Question. 27 Name the products obtained and their uses when coal is processed in industry.

Answer. When coal is strongly heated in the absence of air in closed retorts, various useful products are obtained. These are coke, coal tar and coal gas. **Uses of coke** It is used in the manufacture of steel and in the extraction of many metals. It acts as a fuel and it is a better fuel than coal. **Uses of coal tar** The various compounds obtained from coal tar are used as starting materials for manufacturing a large number of substances used in everyday life and in industry like synthetic dyes, drugs, explosives, perfumes, plastics, paints, photographic materials, roofing materials, etc. Naphthalene balls used to repel moths and other insects are also obtained from coal tar. **Uses of coal gas** It is used as a fuel in many industries situated near the coal processing plants.

Question. 28 We say fossil fuels will last only for a few hundred years. Comment.

Answer. Fossil fuels will last only for a few hundred years because they are exhaustible natural resources. If consumed at a rate faster than the rate at which these are formed in nature, they will get exhausted very soon.

Once the present stock of these gets exhausted, no new supplies of these fossil fuels will be available to us in the near future because it required millions of years for the conversion of dead organisms into these fuels.

Question. 29 We read in newspapers that burning of fuels is a major cause of global warming. Explain why?

Answer. Burning of fuels is a major cause of global warming because they produce a lot of greenhouse gas 'carbon dioxide' on burning.

The earth's atmosphere allows most of the sunlight that falls on it to pass through and heat the surface. But greenhouse gases such as carbon dioxide, methane, water vapours | trap the

heat radiated from earth. This leads to an increase in earth's temperature. This is known as greenhouse effect. When concentration of greenhouse gases such as carbon dioxide increases, greenhouse effect also increases. This is known as global warming. It may cause melting of ice caps and glaciers resulting the rise in sea levels.

Question. 30 While driving what are the tips we must follow to save petrol/diesel/natural gas?

Answer. The following tips we must follow to save petrol/diesel/natural gas as below:

- (i) Ensure correct air pressure in the tyres.
- (ii) Ensure regular maintenance of the vehicle.
- (iii) Drive at a constant and moderate speed as far as possible.
- (iv) Switch off the engine at traffic lights or at a place where you have to wait.

Question. 31 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. If all the exhaustible natural resources are exhausted by human activities, then the survival of living beings would not be possible. Actually, fossil fuels are the most important source of energy for us today. They are concentrated source of energy and give off heat and light on burning. The heat can be used to cook food or to run engines such as automobile engines. It can be used to generate electricity as in powerhouse where the most common fuel used is coal.

Question. 32 Why petrol is exhaustible natural resource whereas sunlight is not? Explain.

Answer. The natural resources which are present in a limited quantity in nature and can be exhausted (used up) by human activities are called exhaustible natural resources, e.g. coal, petroleum, natural gas, minerals, forests, wildlife, etc.

It requires millions of years for the conversion of the dead organisms into petroleum from which petrol is separated. So, once the present stock of it gets exhausted, no new supplies of it will be available to us in the near future, whereas sunlight is present in an unlimited quantity in nature, so it is an inexhaustible natural resource. It is not likely to be exhausted by human activities.

Question. 33 Write some important uses of the various constituents of petroleum.

Answer. (i) Petroleum gas in liquid form (LPG) is used as fuel in homes and industries.

(ii) Petrol is used as fuel for automobiles and aviation.

(iii) Kerosene is used as fuel for stoves, lamps and jet aircrafts.

(iv) Diesel is used as fuel for heavy motor vehicles, electric generators.

(v) Lubricating oil is used for lubrication.

(vi) Paraffin wax is used in ointments, candles, vaseline, etc,

(vii) Bitumen is used in paints and road surfacing.

Question. 34 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. Yes, the known resources of coal will last only for about 100 years. Once the present stock of coal present in the earth gets exhausted, no new supplies of these fossil fuels will be available to us in the near future because it takes millions of years to convert the dead organisms into fossil fuels in nature.

So, coal should be used with care and caution and not wasted at all.

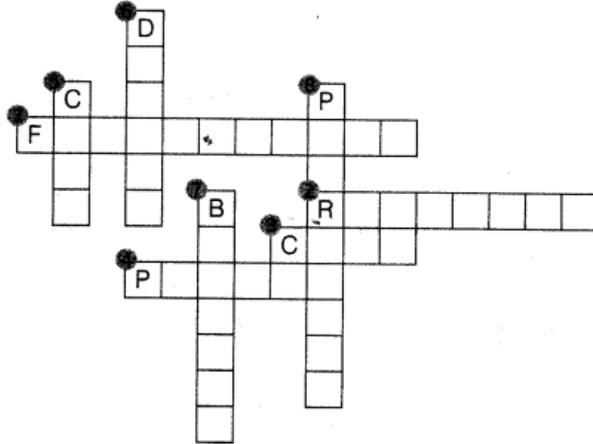
Question. 35 What steps would you suggest for the judicious use of fuels?

Answer. (i) We should use fossil fuels only when absolutely necessary.

(ii) We can also use natural gas as a substitute. The reserves of natural gas discovered by us have gone up ten times within 20 years.

(iii) Alternative sources of energy such as solar, wind and biomass should be used in place of fossil fuels.

Question. 36 Complete the crossword in figure with the help of the clues:



Across

1. Fuels obtained from dead remains of living organisms. (6, 5)
2. A process by which the various constituents of petroleum are separated. (8)
3. A porous black substance obtained from coal. (4)
4. Another name for motor fuel. (6)

Down

5. The substance obtained by carbonisation. (4)
6. Fuel for heavy motor vehicles. (6)
7. A petroleum product used for road surfacing. (7)
8. Dead remains of sea animals got converted into it. (9)

Answer. Across

1. Fossil fuels 2. Refining
3. Coke 4. Petrol

Down

5. Coal 7. Bitumen
6. Diesel 8. Petroleum

