

## 4 FOSSILS

### I. Multiple choice questions: Tick (✓) the correct choice.

1. Coal and petroleum are

- (a) fossils (b) formed by Sun's energy  
(c) fossil fuels (d) none of the above

Ans. (c)

2. Fossils

- (a) are of recent origin  
(b) are formed from living organisms that lived millions of years ago  
(c) do not represent living forms  
(d) are none of the above

Ans. (b)

3. The study of fossils is known as

- (a) Zoology (b) Botany (c) Palaeontology (d) Anthropology

Ans. (c)

4. Which of the following does not help in the fossilisation?

- (a) Petroleum (b) Snow (c) Resin (d) Oxygen

Ans. (b)

5. The commonest method of fossil formation is

- (a) impression (b) petrifications  
(c) mould and cast (d) preservations by show

Ans. (b)

6. The coal which is used as common household fuel in India is scientifically known as

- (a) bituminous coal (b) peat (c) lignite (d) anthracite coal

Ans. (a)

7. Windmill is an example of

- (a) solar energy (b) tidal energy  
(c) wind energy (d) fusion energy

Ans. (c)

**II. Complete the table:**

Types of Coal	Carbon Content (%)
Peat	11
Lignite	38
Bituminous coal	65
Anthracite	96

**III. Fill in the blanks.**

- Fossils are present in ..... rocks.
- Three main fossil fuels are, ....., ..... and .....
- Fossil fuels, because of their inability to regenerate quickly, are called ..... resources of energy.
- Fuels which are formed from the remains of plants and animals which got buried millions of years ago are called .....
- Fossil fuel cause ..... and are therefore bad for the environment.
- Coal is a complex mixture of compound of ....., ..... and ..... and some free carbon.
- Solar energy is an almost inexhaustible source of .....

**Ans.** 1. Sedimentary 2. Coal, petroleum, natural gas 3. Non-renewable  
4. Fossil fuels 5. Pollution 6. Carbon, hydrogen, oxygen 7. Energy.

**IV. Write true or false in front of the statements given below:**

- Any animal buried in soil is called fossil.
- Mummies are fossils preserved by snow.
- Methane is the chief constituent of natural gas.
- Anthracite is a soft coal.
- Peat is the most abundant coal in India.

**Ans.** 1. False 2. False 3. True 4. False 5. True

**V. Answer the following questions:**

- Define fossils.

**Ans.** Anything dug out of the earth is called fossil. But in the

terms of biology, fossils are the remains of dead plants and animals which existed millions of years ago and got buried in the earth.

2. How are fossils formed?

**Ans.** Fossils are the traces of any organism that lived in the remote past. Generally, only the hard parts of organisms become fossilised but under certain circumstances the entire organism is preserved.

In fossilisation, dead organism get buried under sediments of sand and other minerals. The sediments keep depositing over a period of time. The soft parts decay but the hard parts survive and absorb minerals. These minerals gradually replace the hard parts of the organisms, and convert them into hard stone, i.e. the fossil.

3. Mention the significance of the study of fossils.

**Ans.** Fossils are the records that tell us lot about the living things which lived in the past. Fossils present in the rock nearer the surface of the earth are more recent fossils and those deep in the rocks are older fossils.

4. What are fossil fuels?

**Ans. Fossil fuels.** Fossil fuels are present in Earth and produces a lot of heat on burning. These fuels that are formed from the remains of plants and animals which got buried millions of year ago, are called fossil fuels. Petroleum, kerosene, coal are some of the important fuels.

5. Name three fossil fuels.

**Ans.** Three fossil fuels: Coal, Kerosene, Petrol.

6. Name the ultimate source of energy for fossil fuels.

**Ans.** Sun is the ultimate source of energy for fossil fuels because they have been formed from the plants that lived millions of years ago. These plants prepared their food by using sunlight.

7. Why are fossil fuels considered non-renewable sources of energy?

**Ans.** Fossil fuels are considered non-renewable sources of energy because they are present in Earth in limited quantities and they

will be exhausted very soon, due to increasing demand of energy.

8. Write briefly about the following fossil fuels:

(i) Coal, (ii) Petroleum, (iii) Natural gas

**Ans. Coal.** It is a complex mixture of compounds of carbon, hydrogen and oxygen. It is found in deep coal mines. The formation of coal is a very slow process and takes thousands of years.

Coal is very important because it is good source of energy and also important source of a number of organic compounds which are used in the manufacture of dyes, drugs, explosives and synthetic detergents.

**Petroleum.** It is also known as crude oil. It is believed that it is formed by marine organism which died millions of years ago and got covered with layers of sediments. Under the effect of moisture high temperature, high pressure and absence of oxygen they changed into petroleum.

Petroleum is mostly found in sedimentary rocks, and is obtained by drilling in these rocks.

**Natural gas.** It is a mixture of hydrocarbons formed along with petroleum millions of years ago. It is also formed from the remains of living organisms which got buried under Earth. It consists of 95% methane and 5% ethane, propane, and ethylene.

9. What is meant by energy crisis?

**Ans.** Now-a-days population of the world is increasing day-by-day and we have a lot of pressure to complete the demand of energy. To complete the increased demand, imports of oil and petroleum products are increasing every year. But we have limited non-renewable sources of energy. This indiscriminate use of energy sources without developing proper alternative sources of energy is leading to an energy crisis.

10. Why is preservation of fossil so important?

**Ans.** Preservation of fossils are so important because these are the

records that gives the knowledge about the life in remote past. They give the evidences of prehistoric organisms which lived once upon a time.

**11.** What do you mean by petrification?

**Ans.** Petrification is the most common method of fossil formation in which organism has been turned to stone. Moulds and casts are formed by hardening of the material surrounding the buried organism.

**12.** Differentiate between Palaeobotany and Palaeozoology.

**Ans. Palaeobotany.** It is the study of the fossil of flora.

**Palaeozoology.** It is the branch of science which is concerned with the study of the fossil of animals.

**13.** Expand: (i) CNG (ii) LPG.

**Ans. CNG:** Compressed Natural Gas

**LPG:** Liquefied Petroleum Gas

**14.** What are the compounds present in coal?

**Ans.** Coal is a complex mixture of compounds of carbon, hydrogen, oxygen and some free carbon. Small amounts of nitrogen and sulphur compounds also occur in coal.

**15.** Name some pollutants produced by burning of petrol.

**Ans.** On burning, petrol gives out some pollutants. These pollutants include:

- (i) Carbon monoxide and unburnt carbon particles.
- (ii) Some alcohols and acids.
- (iii) Lead compounds.

When large volume of petroleum products are burned, the greenhouse gases and other by products that are released into the air cause serious environmental problems such as air pollution, smog, acid rain. Combustion of fossil fuel is the primary reason for the increased concentration of CO<sub>2</sub> in the environment.

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