

A. Case-Based/Source Based/Integrated Questions :

Besides carbon, coal contains many valuable organic compounds. When coal is burnt in the presence of air, these compounds are lost during combustion. Therefore, attempt is made to recover these compounds before it is burnt. One of the methods used for this is destructive distillation of coal. In this process, coal is heated in the absence of air. This process yields useful products like coal gas, coal tar and coke.

Read the above paragraph and choose the correct options :

1. During destructive distillation coal is heated at a high temperature
 - (a) Above 100°C
 - (b) Above 200°C
 - (c) Above 600°C
 - (d) Above 1000°C
2. A black, thick liquid with an unpleasant smell produced during this process
 - (a) Coal tar
 - (b) Coke
 - (c) Coal gas
 - (d) None of these
3. Which of the following is a flammable gaseous fuel obtained during the process ?
 - (a) Coal gas
 - (b) Coke
 - (c) Coal tar
 - (d) Both (b) and (c)
4. Where is coke used ?
 - (a) In the manufacture of paints
 - (b) In the extraction of many metals
 - (c) In steel industry
 - (d) Both (b) and (c)

B. Assertion & Reason Type Questions :

Instructions : Each question has an Assertion followed by Reason. Mark the correct choice.

- (A) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
- (B) Both the Assertion and Reason are true but the Reason is not the correct explanation of Assertion.
- (C) Assertion is true but Reason is false.
- (D) Both Assertion and Reason are false.

1. Assertion : The slow process of conversion of dead vegetation into coal is called catenation.

Reason : When coal burns in the presence of air it produce CO_2 gas.

2. Assertion : Petroleum is known as Black gold.

Reason : It has great commercial importance, so it is called Black gold.

3. Assertion : Sunlight and Air are inexhaustible resources.

Reason : These are present in unlimited quantities in nature.

4. Assertion : Coal is a fossil fuel.

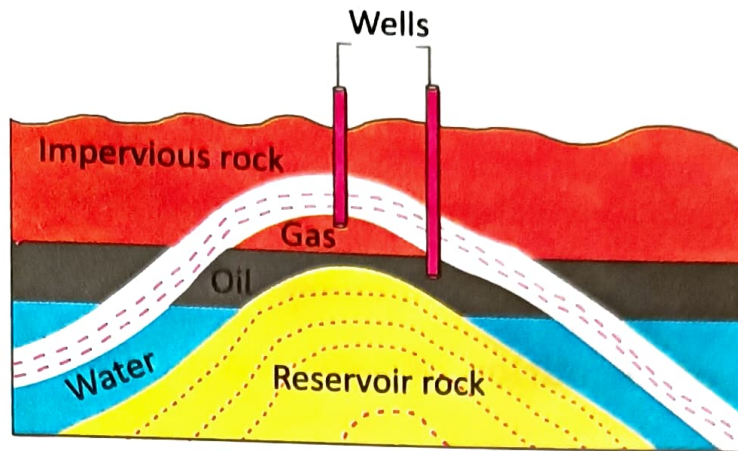
Reason : It is formed due to compression of inorganic material over million of years.

5. Assertion : Coal is one of the fuels used to cook food.

Reason : Coal can be used to fire a stove or an oven and given the energy for cooking.

C. Creative and Innovative Thinking Skill Based Questions :

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



2. Imagine that all the exhaustible natural resources are exhausted by human activities. Do you think the survival of living beings would be possible ? If yes, why?, If not, why not ?
3. We read in newspapers that burning of fuels is a major cause of global warming. Explain why ?
4. You are provided with a mixture of petroleum and water. Can you suggest a method to separate the two ?
5. While driving what are the tips we must follow to save petrol/ diesel/natural gas ?