



CREST
Olympiads
#CRESTInnovator

CREST Science Olympiad (CSO) Worksheet *for*

Class 8



Topic

Coal and Petroleum



@crestolympiads



info@crestolympiads.com



+91-98182-94134

Worksheet on Coal and Petroleum

1. To investigate the process of fractional distillation of petroleum, a student sets up a distillation apparatus with a fractional distillation column. What is the purpose of the fractional distillation column in this setup?

- a. To heat the petroleum to its boiling point
- b. To separate the different components of petroleum based on their boiling points
- c. To cool down the petroleum after distillation
- d. To measure the volume of the distilled petroleum

2. Consider the following statements and choose the correct option:

Statement 1: Coal gas is a mixture of hydrogen, carbon monoxide, methane, and other gases.

Statement 2: Coal gas is obtained during the processing of coal to get coke.

- a. Statement 1 is correct but statement 2 is incorrect.
- b. Statement 1 is incorrect but statement 2 is correct.
- c. Both statements are correct.
- d. Both statements are incorrect.

3. In the following question, you will find an assertion and a reason. Select the appropriate option that applies.

Assertion: Destructive distillation of coal produces various valuable products.

Reasoning: During the destructive distillation of coal, when coal is heated in the absence of air, it undergoes thermal decomposition, resulting in the formation of coke, coal tar, and coal gas. These products have multiple industrial applications.

- a. Both the assertion and reasoning are correct, and the reasoning is the correct explanation of the assertion.
- b. Both the assertion and reasoning are correct, but the reasoning is not the correct explanation of the assertion.
- c. The assertion is correct, but the reasoning is incorrect.
- d. Both the assertion and reasoning are incorrect.

4. Which of the following options correctly represents the order in which products are obtained during the refining of petroleum?

- a. Bitumen, kerosene, petrol, petroleum gas
- b. Petroleum gas, kerosene, petrol, bitumen
- c. Kerosene, petrol, petroleum gas, bitumen
- d. Petroleum gas, petrol, kerosene, bitumen

5. Which of the following is a correct characteristic of natural gas?

- I. It is a solid fossil fuel.
- II. It causes high pollution on combustion.
- III. It consists mainly of methane.
- IV. It is obtained from the destructive distillation of coal.

- a. I, III, and IV
- b. Only III
- c. III and IV
- d. II, III, and IV

Answer Key

1. b - The fractional distillation column works on the principle that different components of petroleum have different boiling points. As heated petroleum vapour rises up the column, it cools down, and the components with higher boiling points condense and settle at different heights in the column. This process results in the separation of various fractions of petroleum based on their boiling points, allowing the collection of different products at different levels of the column.
2. a - Statement 1 is correct as coal gas is indeed a mixture of hydrogen, carbon monoxide, methane, and other gases. However, statement 2 is incorrect because coal gas is obtained during the process of destructive distillation of coal, not during the processing of coal to get coke.
3. a - Both the assertion and reasoning are correct, and the reasoning is the correct explanation of the assertion.
The assertion is correct because the destructive distillation of coal indeed produces valuable products like coke, coal tar, and coal gas. The reasoning is also correct because it explains that during destructive distillation, when coal is heated in the absence of air, it undergoes thermal decomposition, leading to the formation of these valuable products with various industrial applications.
4. d - Petroleum gas, petrol, kerosene, bitumen
During the refining of petroleum through fractional distillation, the products are separated based on their boiling points. Petroleum gas, which has the lowest boiling point, is obtained at the top of the distillation column, followed by petrol, kerosene, and bitumen in descending order of their boiling points.
5. b - Natural gas is a gaseous fossil fuel and consists mainly of methane, which is mentioned in statement III. It is not obtained from the destructive distillation of coal, so statement IV is incorrect. Statements I and II are incorrect as natural gas is not a solid fuel, and it causes less pollution on combustion compared to other fossil fuels.

More Questions Coming Soon – Keep Learning!

Difference between Ordinary & Extra-Ordinary is that "Little Extra"

Discover Our Ultimate Prep Kits!

Buy Previous Years Papers

1. Login at www.crestolympiads.com/login
2. Go to Dashboard -> Additional Practice -> Buy



Buy Physical & Digital Workbooks at

<https://www.crestolympiads.com/olympiad-books>



Buy Additional Practice

1. Login at www.crestolympiads.com/login
2. After login, go to Dashboard -> Additional Practice -> Buy

