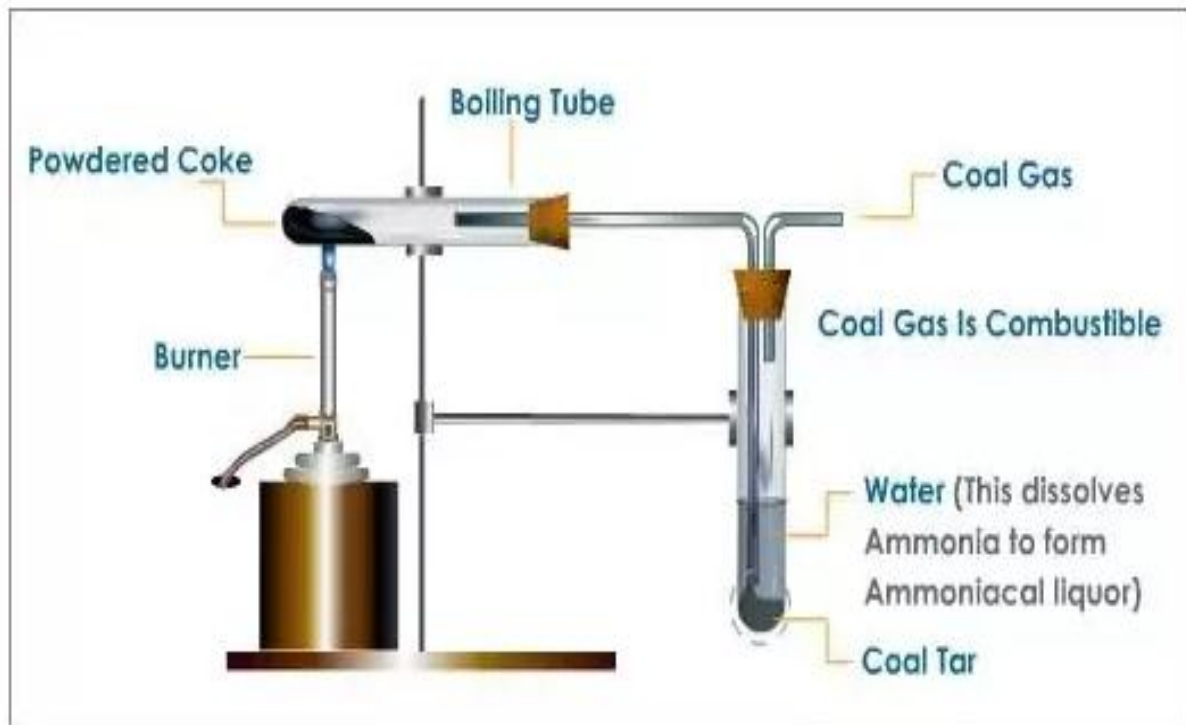
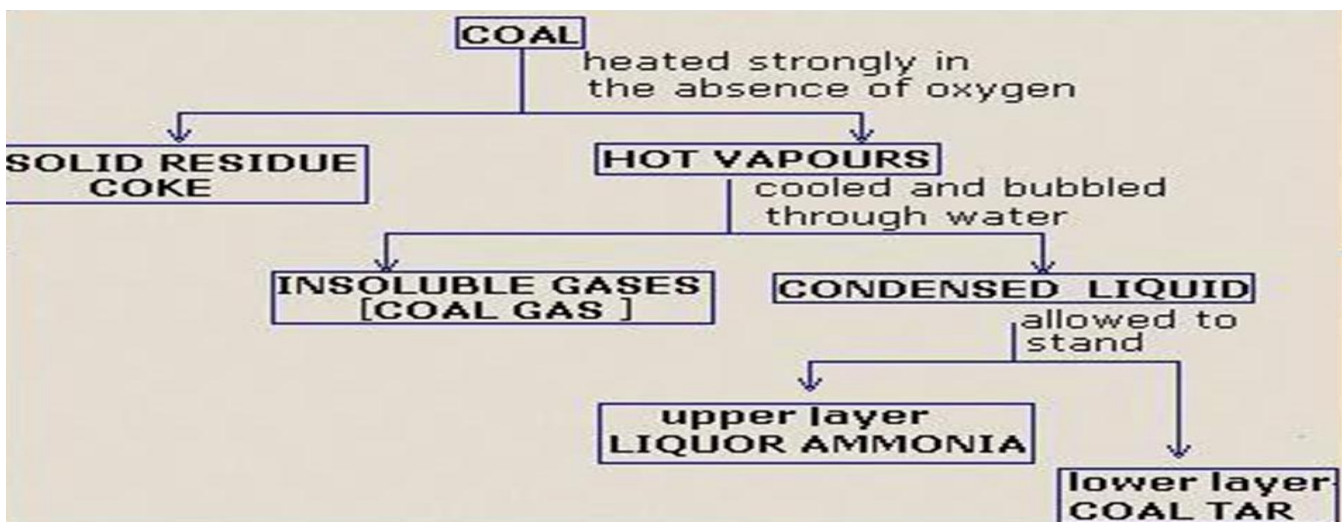


## What is destructive distillation?



**Figure 1 Destructive Distillation**

- It is a process in which coal is heated at very high temperature in the absence of air to obtain various useful products from it. Consider the diagram below to understand the process of destructive distillation. Different products obtained through this process are coal gas, coal tar, coke and liquor ammonia.



**Figure 2 Destructive Distillation Process Flow Chart**

## ❖ Major Coal Products

Coke	Coal Tar	Coal Gas
<ul style="list-style-type: none"><li>• Tough, porous, and black substance</li><li>• Almost pure carbon</li><li>• Used in manufacturing of steel and in extraction of many metals</li><li>• <b><i>The processing of coal to get coke also yields coal gas.</i></b></li></ul>	<ul style="list-style-type: none"><li>• Black, thick liquid with unpleasant smell</li><li>• Mixture of about 200 substances</li><li>• Yields many products that are used as raw materials to manufacture drugs, explosives, naphthalene balls, perfumes, synthetic dyes, paints, plastics, roofing materials, photographic materials etc.</li><li>• <b><i>Earlier, coal tar was used for metalling the roads. Now, bitumen (a petroleum product) is used for the purpose.</i></b></li></ul>	<ul style="list-style-type: none"><li>• By-product of processing of coal to get coake</li><li>• Used in many industries as fuel</li><li>• Mainly used as heat source (and not as a light source)</li><li>• <b><i>Once used for street lighting. It was used for this purpose for the first time in London in 1810, and for the first time in New York in 1820.</i></b></li></ul>

**Figure 3 Coal products**

## What are hydrocarbons?

Hydrocarbons are the substances that consist of only carbon and hydrogen. Compounds like methane, butane, and hexane are hydrocarbons that are produced on burning of the fossil fuels.

## What will happen if the coal reserves get depleted?

- Coal is being used as a major source of energy in industries as well as rural areas.
- Not only this, it serves various other purposes like the synthesis of synthetic oil, natural gas, coke, coal tar and coal gas.
- If the amount of coal gets depleted it would become much difficult for us to produce energy for various purposes. Hence, we must use coal in an efficient way.

## What substances are released on the burning of coal?

1 Carbon dioxide

- 2.★ Carbon monoxide
- 3.★ Sulphur Dioxide
- 4.★ Nitrogen
- 5.★ Lead
- 6.★ Arsenic
- 7.★ Mercury

Next Part: Petroleum