

## Fuels and Energy Own Notes

When coal is heated to a very high temperature without air, it produces any useful by-products. One of these is a grey hard porous rock called COKE. This process is known as DRY DISTILLATION.

Coal is formed from trees and plants that were living about 300 million years ago. As the trees and plants died, they sank to the bottom of shallow swamps. Over the years they were covered by sand, clay, sediment and other minerals. As more and more rocks piled up on top, the lower layers were compressed. The temperature also rose as they sank deeper. Under high temperature and high pressure, these dead plants and trees were slowly converted into coal. This process is known as CARBONISATION.

Coal contains CARBON and CARBON COMPOUNDS.

The chemical that gives smell to gas is known as ETHYL MERCAPTAN.

Each liquid/gas catches fire at a different temperature. This temperature is known as IGNITION TEMPERATURE.

The Liquefied Petroleum Gas (LPG) contains BUTANE and PROPANE.

A good fuel should be cheap, can be stored and transported easily, it should burn steadily, have a high calorific value, and it should have a low ignition temperature, should not pollute the air, and should not leave much residue behind.

Charcoal that is made by heating wood slowly with very little air is also a non-fossil fuel. Charcoal contains only CARBON.

The CALORIFIC value of a fuel is defined as the amount of heat evolved when one gram of the fuel is burnt completely in oxygen. This value is measured in kilo joules. [ kJ ]

Solar energy can be converted into electricity using PHOTOVOLTAIC or solar cells.

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