

mica.

Introduction—Many minerals are obtained from the earth's crust in India, e.g. coal, iron ore, mica, manganese, limestone, mineral oil etc. These minerals can be divided into—**1) metallic minerals**—e.g. iron ore, copper, bauxite, manganese, tungsten, gold, silver, lead etc. and **2) non-metallic minerals**—e.g. coal, mineral oil, mica, limestone, gypsum etc. Among these coal and mineral oil are burnt to produce energy. So they are called mineral fuel.

● 1. COAL ●

Coal is a very important mineral resource. Big trees buried underground for millions of years change into coal by the influence of high pressure and temperature at great depths. So it is also called a fossil fuel just as mineral oil is called.

● **Uses of coal**—In India, coal is mainly used for electricity production, transport and energy for industries etc. **1.** In India, 64% of coal production is used in thermal power stations for the generation of electricity. **2.** Nearly 1% of coal is used in transport as in steam engines. **3.** 13% of the coal produced is used for smelting iron ore in the iron and steel industries. The remaining production of coal is used for—**4.** Cement industry, (4%), **5.** Fertilizer industry (2%) and **6.** domestic fuel producing and other industries (16%). In the chemical and fertilizer industries coal is used as a raw material. In the cold regions of north India coal is used to keep the house warm.

● **By-products of Coal**—Coal produces many other products other than for the generation of heat and electricity. By burning coal (high temperature and low temperature carbonisation) in the blast furnaces coking coal is made when by-products like **coal gas** and other useful materials are obtained. Coal gas also produces **ammonia** (fertilizer is made), **sulphur, tar, naphthalene, mineral fuel, saccharine, phenol, benzol** (dyes are made), **creozote** (insecticides, pesticides are made), **naphtha**, etc. By **hydrogenation** coal produces **synthetic oil, gas, diesel** etc. Tar and light oils are used as raw materials for making **synthetic rubber, plastic, photographic materials, perfumes, deodorants** etc. After carbonisation of coal, from the remaining ash, cement and concrete are produced. Sometimes, from the coal ash two rare minerals are obtained—germanium and vanadium.