

## What is coal:

1) Coal is a chemically<sup>1</sup> and physically<sup>2</sup> heterogeneous<sup>3</sup>, sedimentary rock<sup>4</sup>; accumulated as peat<sup>5</sup>; and composed, principally of organic<sup>6</sup> materials, i.e., Macerals<sup>9</sup> with subordinate<sup>8</sup> ash-forming inorganic<sup>7</sup>, i.e., Minerals<sup>10</sup> and Moisture<sup>11</sup>.

1. CHEMICALLY: By the means of chemical (relating to the composition, properties and structures of substances, and of the changes they undergo) process.
  2. PHYSICALLY: It means, according to the law of nature.
  3. HETEROGENEOUS: It means, composed of dissimilar elements.
  4. SEDIMENTARY ROCK: Rock formed from fragments of other rocks, by precipitation from solutions, or by organic secretion.
  5. PEAT: A dense accumulation of water-saturated (completely filled), partially decayed vegetable tissue.
  6. ORGANIC: It means, having the physical structure characteristic of living organism; Of or relating to the compounds not regarded as organic; artificial.
  7. INORGANIC: It means, not composed of plant or animal material; Of or relating to elements and compounds not regarded as organic; artificial.
  8. SUBORDINATE: It means, inferior in order, rank and importance.
  9. MACERALS: They are organic substances, derived from plant tissues and exudes; that have been incorporated in sedimentary strata; variably subjected to decay, then compacted, hardened, and chemically altered by geological process (process relating to earth's crust, rocks, strata.)
  10. MINERALS: it is a solid substance that is not vegetable or animal, especially one with a constant chemical composition that is found naturally in earth.
  11. MOISTURE: The diffused (spread widely) or condensed (more compact) liquid especially water, which makes a gas or solid slightly damp.
- 2) Coal is the general description term applied to a group of solid fossil, fuels, black or brown in color, that consist predominately of altered consolidated matter.
- 3) From geological standpoint, coal may be classified as a sedimentary rock consisting essentially of organic compounds and with only a minor proportion of mineral constituents, although in legal and everyday language it is sometimes referred to as a mineral (i.e. substance within the earth's crust that can be extracted commercially).
- 4) Coal is not a single chemical compound with identical molecules. It can be regarded as a statistical structure made up of small, condensed, aromatic units or layers with a substituent groups around the perimeter and some cross-linking between adjacent units.
- 5) Coal is a readily combustible rock containing more than 50% by weight and more than 70% by volume of carbonaceous material, formed from compaction or induration of variously altered plant remains similar to those of peaty deposits. Difference in the kind of plant material (type) in degree of metamorphism (rank), and range of impurity (grade) are characteristic of the varieties of coal.
- 6) Coal is a non-renewable fossil solid fuel formed by a series of natural geo-chemical processes for the plant remains accumulated together with other sediments. It is a combustible brown to black sedimentary rock, composed of heterogeneous components.