Ans 1) The calorific value of a fuel refers to the total heat energy released when a specific amount of it undergoes complete combustion. It is measured in kJ/kg or kJ/mol and is an essential parameter for evaluating fuel efficiency.

Factors affecting calorific value:
Chemical Makeup: Higher carbon and hydrogen content lead to greater energy output.
Moisture content: Excess water lowers usable energy as it absorbs heat during evaporation.
Ash content: Non-combustible material reduces the effective energy yield.
Volatility: Fuels that vapourize easily tend to combust more efficiently.
Physical State: Gaseous fuels generally provide better combustion efficiency than solids.

Ans 2) Coking Coal: A type of coal used primarily in power plants and cement manufacturing, as it does not form strong coke

Caking coal: A type of coal used primarily in power plants and when burned, it does not soften or fuse together, making it suitable for metallurgical applications.