

① chemical industries is classified into organic and inorganic give three examples of each one?

- organic chemical industries

Petroleum, Petrochemicals and Polymers

Fermentation, ethanol, Pharmaceuticals, soaps and detergents

- Inorganic chemical industries

Extractive Metallurgy

chlor-alkali, ammonia, sulphuric acid, fertilizer, cement

② Distinguish between industrial and classical chemistry?

- industrial chemistry: is the branch of chemistry which applies

Physical and chemical procedures towards the transformation of natural raw materials and their derivatives to products that are of benefit to humanity

- classical chemistry: is very essential for advancing the science of chemistry by discovering and reporting new products

③ what factors are used to classify an industry as heavy or light?

- Heavy industrial organic chemical industries

produce petroleum fuels, polymers, Petrochemicals and other synthetic materials mostly from petroleum

- Light organic industries

Produce specialty chemicals which include Pharmaceuticals, dyes, pigments and paints, pesticides, soaps and detergents, cosmetic products and miscellaneous products

④ Explain how the lithosphere is an important source of natural raw materials for the chemical industry?

The vast majority of elements are obtained from the earth's crust in the form of mineral. Ores, carbon and hydrocarbons. Coal, natural gas and crude petroleum besides

⑤ What is the difference between unit operations and unit processes, then mention five examples of each one?

— unit operations: is a physical change
examples: Heat transfer — Evaporation — Crushing
— Pumping — Filtration

— unit processes: is a chemical change
examples: Oxidation — Combustion — Carbonation — Fermentation — Condensation

⑥ What information would you expect to find in a block diagram for a chemical process?

- What is to be done rather than how it is to be done
- Details of unit operations / processes are not given
- Flow by means of lines and arrows
- Unit operations and processes by figures such as rectangles and circles
- Raw materials, intermediate and final products