

Syllabus content for the unit: **FOOD FOR THOUGHT**

Fertilisers

Understand that plant growth causes depletion of soil nutrients (limited to nitrogen, phosphorous and potassium) which can be replaced by fertilisers.

Know that nitrogen gas occurs in the atmosphere and is chemically inert.

Understand the importance of nitrogen compounds to healthy plant growth

- Understand that excessive use of fertilisers is uneconomic and may lead to harmful effects

Acids,Bases and Salts

Know the properties of ammonia gas (limited to its alkaline nature and reaction with acids to form salts)

Know the production and properties of sulphuric acid as a typical acid, including the use of the acid in cleaning metal surfaces and in the manufacture of ammonium sulphate

Know the chemical changes involved in the manufacture of sulphuric acid by the contact process.

Chemical Equations

Know that compounds have a fixed composition and can be represented by formulae

be able to interpret chemical formulae in terms of the elements and the number of atoms present

be able to represent chemical reactions by word equations be able to interpret, construct and balance symbol equations.

Manufacture of Ammonia

Be familiar with the method of manufacture of ammonia

Know the chemical changes involved in the manufacture of ammonia by the Haber process

Know that the use of a catalyst speeds up a chemical reaction and that the catalyst is not used up in the reaction

Know that some chemical reactions are reversible

Evaluate data for reactions used in industrial processes (questions requiring factual detail limited to Haber process and the Contact process

- Be able to interpret simple flow diagrams for chemical manufacturing processes
- Understand that the yield of products of reversible reactions may be affected by changes in temperature, pressure and reactant concentration
- Understand that in a reversible reaction, the reaction in one direction is exothermic and the reverse is endothermic

Fermentation

Know the use of yeast in making alcoholic solutions(wine) and in bread making

Appreciate some commercial uses of enzymes (limited to the use of pectinase in clarifying fruit juice and invertase in making soft-centred chocolates.)

Know that ethanoic acid is a weak acid which results from oxidation of ethanolic solutions