

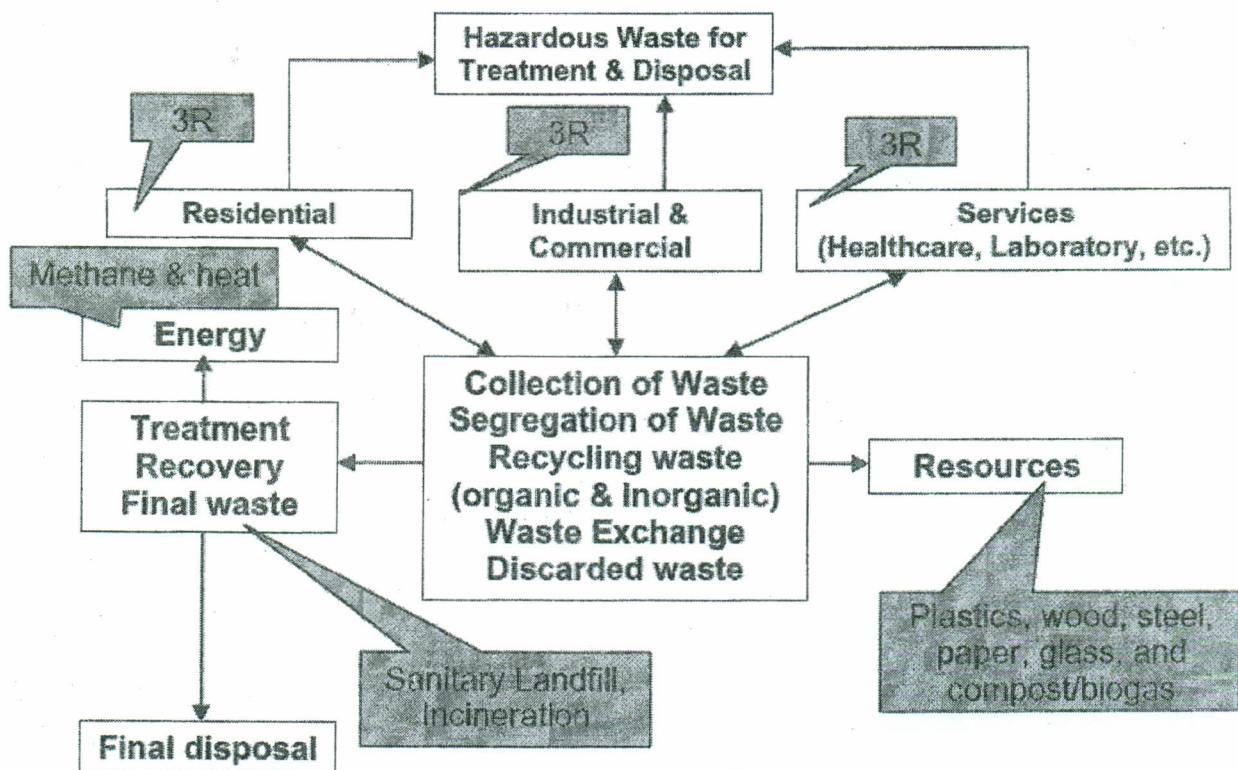
Technical English Language

Master Course: (2013)

Please process the following. Time allowed 3 hrs.

Human activities generate waste materials that are often discarded because they are considered useless. These wastes are normally solid, and the word *waste* suggests that the material is useless and unwanted. However, many of these waste materials can be reused, and thus they can become a resource for industrial production or energy generation, if managed properly. Waste management has become one of the most significant problems of our time because our way of life produces enormous amounts of waste, and most people want to preserve their lifestyle, while also protecting the environment and public health.

Integrated solid waste management (ISWM) based on what is called 3R approach (reduce, reuse, and recycle), as shown below, is aimed at optimizing the management of solid waste from all the waste-generating sectors (municipal, construction and demolition, industrial, urban agriculture, and healthcare facilities) and involving all the stakeholders (waste generators, service providers, regulators, government, and community/neighborhoods). The concept of ISWM has been introduced to streamline all the stages of waste management, i.e., source separation, collection and transportation, transfer stations and material recovery, treatment and resource recovery, and final disposal. It was originally targeted at municipal solid waste management (MSWM), and then extended to cover all waste generating sectors to optimize the level of material and resource recovery for recycling as well as to improve the efficiency of waste management services.



The concept of ISWM based on 3R approach.

Guided with this summary, write an essay includes a comprehensive waste classification, waste risks, and an ISWM system.