Assignment 2:

Unit operation in Food Processing:

Q1: Differentiate between unit operation and process?

Ans: Unit operation is a physical changes while unit process is a chemical changes. Unit operation is just primary while unit process is secondary. Both the process are transformatory activities. Operation: as an activity or activities performed on a product or service by a single machine or person. Process: a sequence of operations consisting of people, machines, materials, and methods for the design, manufacture, and delivery of a product or service. In unit operations only physical change takes place and no chemical change takes place or we can say no chemical reaction takes place. While in unit process only chemical reaction takes place. For example nitration, sulfonation, oxidation, reduction of any compound. Unit operations involve a physical change or chemical transformation such as separation, crystallization, evaporation, filtration, polymerization, isomerization, and other reactions. ... A process may require many unit operations to obtain the desired product from the starting materials, or feedstocks.

Unit operation:

Hence unit operation involve the physical separation of the products obtained during various unit processes.

It is very important in chemical industries for separation of various products formed during the reaction.

For example, in milk processing, homogenization, pasteurization, chilling, and packaging are each unit operations which are connected to create the overall process.

Unit process:

It also basic information regarding the reaction temperature and pressure the extent of chemical conversions and yield of product of the reaction nature of reaction whether endothermic or exothermic type of catalyst used.

Example hydrogenation oxidation nitration.

Unit processes include processes such as oxidation, nitration, and catalysis.