FAQ's(Frequently asked questions)

1. Define the term Fermentation?

Ans) Fermentation is a metabolic process that converts sugar to acids, gases, and/or alcohol. It occurs not only in yeast and bacteria, but even in oxygen-starved muscle cells, as in the case of lactic acid fermentation. Fermentation is also used more broadly to refer to the bulk growth of microorganisms on a growth medium, often with the goal of producing a specific chemical product.

Q.NO 2.What are the types of fermentation?

Ans Some of the most important types of fermentation are as follows:

1. Solid State Fermentation
2. Submerged Fermentation
3. Anaerobic Fermentation
4. Aerobic Fermentation
5. Immobilized Cell Bioreactors
6. Immobilized Enzyme Bioreactors.

Q.NO 3. What do you mean by Continuous Fermentation?

Ans. In continuous fermentation, an open system is set up. Sterile nutrient solution is added to the bioreactor continuously and an equivalent amount of converted nutrient solution with microorganisms is simultaneously removed from the system

Q.no 4. What do you mean by homogeneously mixed bioreactor ?

Ans. This is run as either a chemostat or a turbidostat. In the chemostat in the steady state, cell growth is controlled by adjusting the concentration of one substrate. Any required substrate (carbohydrates, nitrogen compounds, salts, O2) can be used as a limiting factor. In the turbidostat, cell growth is kept constant by using turbidity to monitor the biomass concentration and the rate of feed of nutrient solution is appropriately adjusted

Q.no.5 what do you mean by Single Cell Proteins?

Ans. SCP is the dried cells of selected micro-organisms such as algae, yeast, bacteria molds, and higher fungi,that can be used as rich protein sources to humans and animals

Q.no.6 what are the varuous Strains used for production of antibiotics?

Ans. Microorganisms used in fermentation are rarely identical to the wild type. This is because species are often genetically modified to yield the maximum amounts of

antibiotics. Mutation is often used, and is encouraged by introducing mutagens such as ultraviolet radiation, x-rays or certain chemicals. Selection and further reproduction of the higher yielding strains over many generations can raise yields by ٢٠-fold or more. Another technique used to increase yields is gene amplification, where copies of genes coding for enzymes involved in the antibiotic production can be inserted back into a cell, via vectors such as plasmids. This process must be closely linked with retesting of antibiotic production

Q.no 7 what are biopolymers?

Ans. Biopolymers are microbially produced polymers used to modify the flow characteristics of liquids and to serve as gelling agents. These are employed in many areas of the pharmaceutical and food industries. The advantage of using microbial biopolymers is that production is independent of climate, political events that can limit raw material supplies, and the depletion of natural resources. Production facilities also can be located near sources of inexpensive substrates(e.g., near agricultural areas). Bacterial exo-polysaccharides.

Q.no 8 what do you mean by Continuous Culture

Ans. Contrary to the batch culture where the exponential growth of microbial population is restricted only for a few generations, it is often desirable to maintain prolonged exponential growth of microbial population in industrial processes.

This condition is obtained by growing microbes in a continuous culture, a culture in which nutrients are supplied and end products are continuously removed. A continuous culture, therefore, is that in which the growth of bacterial population can be maintained in a steady state over a long period of time.