

In laboratory, microbes / bacteria are grown in a culture. (51)
 It is mainly of two types

(A) Batch culture

Inoculation is done in
 nutrient solution

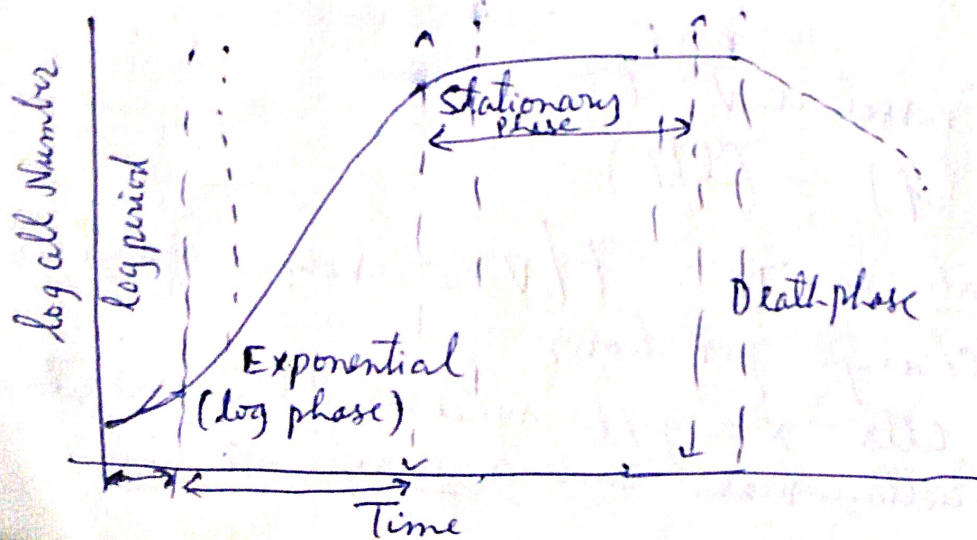
Incubated under suitable condⁿ



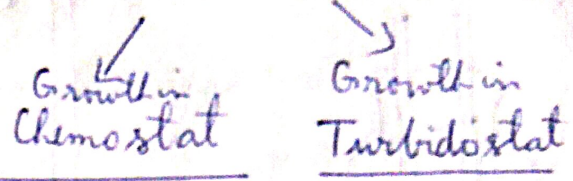
Microbes multiply and multiply till some (one) necessary factor come to exhaust or become limiting to growth.

- No nutrient is added
- No waste product is removed
- ⊕ A growth in a closed system.
- Laws of growth holds good like multicellular organisms.

A batch culture behaves like a multicellular organisms with genetically determined limitations of growth.



(B) Continuous culture (open system)



Substrate concentrations and other cultural conditions are constant.

The cells grow at a constant exponential rate

It is gained by —

- a) Frequent transferring of all population to fresh nutrient medium.
- or
- b) Constant addition of new growth medium to growing cell population and withdrawal of equal volumes of the culture.

Turbidostat (Control)

Keeps turbidity / bacterial concentration constant. A turbidity probe control nutrient flow by means a switch. Culture vessel contains nutrient in excess