Question Bank - Industrial and Environmental Microbiology

Unit 2: Bioreactors/Fermenters and fermentation process

Q1. What is fermenter? Give the layout and components of basic fermenter. Draw diagrams of the components and explain their function in a bio-fermenter.

Q2. Explain in brief different types of fermenters used in industry.

Q3. Explain in detail any two types of bioreactors studied by you.

Q4. Discuss the design and working of a constantly stirred tank fermenter with the help of a diagram.

Q5. Draw diagram and explain the purpose of following in a fermenter:

i. Impeller
ii. Head space
iii. Baffles
iv. Sparger

Q6. Draw a well labelled diagram showing V.S and T.S of a typical bioreactor.

Q7. Define the following:

i. Fermentation
ii. Fermenter
iii. Bioreactor
iv. Sparger
v. Aspect ratio
vi. Impellers
vii. Air lift fermenter
viii. Constantly Stirred Tank Fermenter
ix. Fixed bed fermenter
x. Fluidized bed fermenter

Q8. Differentiate between the following:

i. Lab scale and industrial scale fermenter
ii. Solid and liquid state fermenter
iii. Fixed bed and fluidized bed bioreactor
iv. Solid state and submerged fermentation
v. Continuous and Batch Fermentation
vi. Primary metabolites and secondary metabolites