

GUJARAT TECHNOLOGICAL UNIVERSITY
B.E. SEMESTER : VIII
FOOD PROCESSING AND TECHNOLOGY

Subject Name: **FOOD FERMENTATION TECHNOLOGY**

Sr. No.	Course Contents	Total Hrs
1.	Microbiology in fermentation: Industrially important cultures, Media- composition, Types of Raw Material, Inoculums Development for industrial fermentations, Criteria for transfer of Inoculums.	08
2.	Microbial Production of enzymes: Fundamentals and Techniques.	05
3.	Design of a Fermentor: Body construction: construction material, Temperature controls, Aeration and agitation systems, Stirrer glands and bearings, Baffles, Valves and steam traps, Pressure-control valves.	08
4.	Sterilization: Calculation of del factor, Calculation of holding time at constant temperature, Scale up of batch sterilization.	06
5.	Aeration & Agitation: Oxygen requirement, Oxygen supply, determination of K _{La} values & factors affecting it.	06
6.	Alcoholic Beverages: Definition, Types, wines, whisky, Champagne, etc. Industrial process for wine production.	06
7.	Spirits: Basics of distillation, steps of distillation, two styles of spirits, types of stills. Brandy, rum, vodka, gin, liquor etc.	06

Reference Books:

1. Principles of Fermentation Technology By P.F. Stanbury, A. Whitaker, and S.J. Hall
2. Industrial Microbiology by A.H. Patel.
3. Biochemical Engineering fundamentals by Jones E. bailey and David F. Ollis Mac Grawhill.