SARDAR PATEL UNIVERSITY
Programme & Subject: B.Sc (Bio Chemistry)
Semester: VI
Syllabus with Effect from: November-2013

Paper Code: US06CBCH06	**Total Credit: 3**
Title Of Paper: Microbiology & Fermentation Technology	

Unit	Description in detail	Weightage (%)
I	**Beneficial Microbiology** Difference b/w prokaryotes and eukaryotes. Microbial cell wall –cell wall of gram + ve and – ve bacteria and its composition, acid fast and non-acid fast bacteria. Synthesis of Precursor of peptidoglycan layer. Synthesis of peptidoglycan layer Role of antibiotics on cell wall biosynthesis. Classification of bacteria, (Whitaker's classification and modern classification). Microbial diversity	**25%**
II	**Fermentation of Primary & Secondary Metabolites** Introduction to fermentation process Batch and continuous culture system. Production of Alcohol, Wine, Vinegar, Antibiotics(penicillin and streptomycin)	**25%**
III	**Isolation & Preservation of Indusatrial Important Microorganism** Isolation of industrial important Microorganism Primary and Secondary Screening, enrichment technique Preservation of Industrial important microbes Different technique of preservation –low temperature storage on agar slopes, storage under liquid nitrogen and lyophylization. Quality control of preserved stock culture icrobial culture collection centre.	**25%**
IV	**Processing & Fermentation of Milk** Types of milk and biochemical constituents Microbial testing for milk Production of milk products-yoghurt types and process, cheese types and process, khafir, kumiss. Probiotics introduction and industrial importances.	**25%**

Basic Text & Reference Books:

- Microbiology by Peizar, Chan, Kreig. Tata Mc Graw Hill edition.
- Basic Microbiology by Power & Daginawala.
- Principle of fermentation technology by Stanburry & Whitakar.
- Practical Microbiology by Siorckin & Cullimore.