

SARDAR PATEL UNIVERSITY
Programme: MSC (Microbiology)
Semester: III
Syllabus with effect from: June 2011

Paper Code: PS03CMIC01	Total Credits: 4
Title Of Paper: Microbial Biotechnology	

Unit	Description in detail	Weightage (%)
1	General concept of Microbial biotechnology and Fermentation economics Microbial production of Antibiotics: penicillin, streptomycin Enzymes: proteases, amylases Organic acids: Citric acid, acetic acid	25 %
2	Microbial production of Amino acids: Glutamic acid, Lysine Industrial Alcohol, Beer and wine Vitamins: Vit B12, B2 Ergot alkaloids	25 %
3	Biotransformations of steroids: Production of single cell protein from bacteria, fungi and algae: Nutritional value and safety. Edible Mushrooms: Cultivation of edible and medicinal mushrooms. Bioplastics Single cell oil	25 %
4	Microbial Exopolysaccharides: Xanthan, Alginate Microbial Flavours: Diacetyl, Methyl ketones, Terpenes, Vanillin Fermented food and dairy products: Starter cultures, science and technology of bread, cheese and yogurt manufacture.	25 %

Basic Text & Reference Books:

- Biotechnology: Rehm and Reid.
- Comprehensive biotechnology: Murray Moo Young.
- Microbial Technology: Pepler
- Microbiology and technology of fermented foods: R.W. Hutkins. Blackwell publishing.
- Topic related review papers

