

SARDAR PATEL UNIVERSITY
Programme: BSC (MICROBIOLOGY)
Semester: III
Syllabus with effect from: June 2012

Paper Code: US03EMIC01	Total Credit: 2
Title Of Paper: Fundamental Microbiology	

Unit	Description in detail	Weighting (%)
1	Historical developments in Microbiology, Germ theory of Disease, Koch Postulates, Contemporary Microbiology: Medical, Agricultural, Industrial Microbiology, Molecular Biology.	
2	Morphology of bacteria Fine structure of Bacteria Structures external to cell wall: Flagella (structure and function), Pili, Capsule, Cell wall (Chemical Composition and structure), Structures internal to cell wall: Cytopasmic membrane, nuclear material, ribosomes Cytoplasmic inclusions (reserve materials) Spore (Structure and function).	
3	Microscopy: Principle, working, instrumentation and applications Light Microscopy: Simple and Compound. Necessity of staining Steps in staining process (Fixatives, mordants, decolorizer and intensifier) Simple staining Differential staining (gram's staining)	
4	Nutrition of Bacteria Nutritional requirements Nutritional types of Bacteria Common ingredients of culture media Types of media Isolation of Pure Culture Growth curve of Bacteria.	

Basic Text & Reference Books:

- Microbiology - Pelczar, Chan and Krieg, 5th Ed.
- Elementary Microbiology - H. A. Modi

