## Syllabus

**Programme:** BSC (MICROBIOLOGY)  
**Semester:** III  
**Syllabus with effect from:** June 2012

<table>
<thead>
<tr>
<th>Unit</th>
<th>Description in detail</th>
<th>Weighting (%)</th>
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</table>
| 1    | **Characterization, Classification and Identification of Microorganisms:**  
Place of microorganisms in living world  
Haeckel’s classification  
Whittaker’s five kingdom concept  
Bergey’s Manual of Systematic Bacteriology.  
Major characteristics of Microorganisms.  
**Microbial Classification:**  
Taxonomic groups, General Methods of Classifying Bacteria, Intuitive method,  
Numerical Taxonomy & Genetic Relatedness.  
Nomenclature and Identification |  |
| 2    | **Cultivation of Bacteria:**  
Nutritional requirements. Nutritional types of bacteria  
Common ingredients of media, Types of media  
**Physical condition required for growth:**  
Temperature, Gaseous requirements (Aerobes and Anaerobes), PH &  
Miscellaneous, Physical requirements. |  |
| 3    | **Isolation and Growth of Bacteria:**  
**Isolation:**  
Pure cultures, Methods of isolating pure cultures, Maintenance & Preservation of  
Pure cultures  
**Growth of Bacteria:**  
Mathematical expression of Growth, Growth curve of Bacteria,  
Synchronous Growth, Continuous culture, Measurement of Growth. |  |
| 4    | **Virology**  
**Bacteriophages:**  
Discovery and significance, General characteristics  
Morphology and structure of Bacterial, Plant and Animal viruses  
Replication of Bacterial viruses (Lytic cycle and Lysogeny)  
Cultivation of animal, plant and bacteriophage |  |

### Basic Text & Reference Books:

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