

## Teaching Plan Academic Year 2015-16

**Class** : B.Sc I **Semester: I**  
**Subject** : Microbiology **Paper No: I**  
**Periods per week** : Th. \_\_\_ Pract. \_\_\_\_ **Test (Date):** \_\_\_\_\_  
**Weeks (Total)** : 15 **Tutorial (Date):** \_\_\_\_\_

**Name: Dr Madhuri Sahasrabudhe**

T

Week	Topic to be Covered
July 1	<ul style="list-style-type: none"> <li>• Scope of Microbiology – branches and applications</li> <li>• Avenues open in Microbiology,</li> <li>• Types of organisms</li> <li>• Distribution of organisms</li> </ul>
2	<ul style="list-style-type: none"> <li>• <b>Unit I :</b></li> <li>• Early observations of organisms</li> <li>• Introduction – spontaneous generation</li> <li>• Definition of biogenesis and abiogenesis</li> </ul>
3	<ul style="list-style-type: none"> <li>• Contribution of different scientists in disproving spontaneous generation.</li> <li>• Contribution of scientists supporting biogenesis</li> </ul>
4	<ul style="list-style-type: none"> <li>• Louis Pasteur- All contributions and Goose neck experiment</li> <li>• Robert Koch- contributions in different areas of microbiology</li> </ul>

	<ul style="list-style-type: none"> <li>• Winogradsky and Beijerinck</li> <li>• Edward Jenner</li> <li>• Alexander Fleming</li> <li>• John Tyndall- experiment , observations and conclusions</li> <li>• General principles of classification</li> </ul>
<p><b>August 5</b></p> <p>6</p>	<ul style="list-style-type: none"> <li>• <b>Unit II:</b></li> <li>• Microbial taxonomy- Basic terms, numerical taxonomy, <math>S_{SM}</math>, <math>S_I</math>, Phenons and dendrogram</li> </ul>
7	<ul style="list-style-type: none"> <li>• Major characteristics- morphological, physiological, ecological, genetic analysis , comparison of proteins</li> </ul>
8	<ul style="list-style-type: none"> <li>• Nucleic acid base composition- %G+ C, Nucleic acid hybridization</li> <li>• Nucleic acid sequencing- DNA and RNA</li> <li>• Bergey's Mannual – I- V volume</li> <li>• General characters of algae</li> </ul>
<p><b>September</b></p> <p>9</p>	<ul style="list-style-type: none"> <li>• General characters of fungi and actinomycetes</li> </ul>
10	<ul style="list-style-type: none"> <li>• General characters of Mycoplasma, Rickettsia and Archaeobacteria</li> </ul>
11	<ul style="list-style-type: none"> <li>• General characters of Viruses, Classification of viruses</li> </ul>
12	<p><b>UNIT III:</b></p> <ul style="list-style-type: none"> <li>• Microscopy- Definition of different terms used</li> <li>• Objectives,</li> <li>• Oculars</li> <li>• Condensers</li> </ul>

<p><b>October</b></p> <p>13</p>	<ul style="list-style-type: none"> <li>• Iris diaphragm</li> <li>• Numerical aperture</li> <li>• Resolving power</li> <li>• Focal length</li> </ul>
<p>14</p>	<ul style="list-style-type: none"> <li>• Condensers- Under transmitted light</li> <li>• Bright field microscopy</li> <li>• Paraboloid and cardioids condensers</li> <li>• Compound microscope</li> </ul>
	<p><b>Principle, working, ray diagram and applications of</b></p> <ul style="list-style-type: none"> <li>• Electron microscope</li> <li>• Dark field microscope</li> <li>• Phase contrast microscope</li> <li>• Fluorescent microscopy</li> </ul>

Teacher's Signature

H.O.D.'s Signature