### III Year B.Tech Biotechnology Sem- V

**Subject:** Food Biotechnology  
**Course Code:** BT-506  
**Faculty:** Dr. Mrs. Vrushali Gadekar

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Unit</th>
<th>Topic</th>
<th>Lecture</th>
<th>Serial No.</th>
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</thead>
</table>
| 1-2    | Introduction to Food Biotechnology | Biotechnology application to food stuffs  
Career in Food Biotechnology  
Activities of Food Biotechnologist | -2 | 2 |
| 3      | Biotechnology in Food Processing | Unit Operation in Food Processing  
Quality Factors in Preprocessed Food  
Food deterioration and its control  
Rheology of Food products | -14 | 16 |
| 4      | Molecular methods and Production | Methods And application of molecular | -3 | 19 |
| 5      | Molecular methods and Production | Cloning in foods  
Developmental technique for new plant varieties | -3 | 22 |
| 6      | Application of Biotechnology to Food products | Microbial role in food products  
Yeast, Bacterial and other microorganisms  
based process and products | -16 | 38 |
| 7      | Modification and Bioconversion of food raw materials | Bioconversion of whey, molasses and starch  
and other food waste for value addition | -6 | 44 |
| 8      | Regulatory aspects of Food Biotechnology | Modern Biotechnological regulatory aspects  
in food industries | -2 | 46 |
| 9      | Social aspects of Food Biotechnology | Biotechnology and Food : A Social Appraisal | -2 | 48 |

| Total Lectures | 48 |
EVALUATION SCHEME (THEORY)

<table>
<thead>
<tr>
<th>Examination</th>
<th>Duration</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Internal</td>
<td>45 minutes</td>
<td>15</td>
</tr>
<tr>
<td>II Internal</td>
<td>45 minutes</td>
<td>15</td>
</tr>
<tr>
<td>Teachers assessment</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>End Semester Exam</td>
<td>2 hours 30 minutes</td>
<td>60</td>
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<tr>
<td><strong>Total</strong></td>
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<td><strong>100</strong></td>
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BOOKS RECOMMENDED:

1. Food Biotechnology: Dietrich Knorr, Inc. New York and Basel
2. Food Science: Potter N.N. CBS publication
3. Handbook of Food Biotechnology: NIIR Board of Consultants and Engg., NIIR
4. Food Science and Technology: B.S. Khattar, Daya Publishing House, Delhi
6. Food Microbiology: Frazier

Sr. No. Topics Hrs

1. Determination of quality of milk by MBRT
2. Detection of number of bacteria by SPC
3. Microscopic determination of microbial flora from yoghurt and lactic acid
   Determination Microbial examination
4. Detection of pathogenic bacteria from food samples
5. Determination of milk clotting enzyme activity
6. Preparation of Cheese
7. To determine mineral salt concentrations in fruit juices by using flame Photometer
8. To check the food efficacy testing of chemical preservatives 04
   Preparation of Bread