

IC136 Understanding Biotechnology & its Applications

Credit: 3-0-0-3

Prerequisite: Consent of the faculty member

Students intended for: B.Tech

Elective or Core: Core

Semester: Even/Odd

Course objective: Broad objective of this course is to give an introduction to biotechnology and its applications in our daily life. The course helps students to get familiarized with various techniques that are used routinely towards this.

Course content:

1. Introduction to “biotechnology” and the history of biotechnological developments with major milestones. [1 Lecture]
2. Basic biology: Brief introduction to genes and genomes. [3 Lectures]
3. Introduction to recombinant DNA technology and its application to genomics.[5 Lectures]
4. Introduction to proteins and their products. [4 Lectures]
5. Microbial biotechnology. [5 Lectures]
6. Plant biotechnology. [5 Lectures]
7. Animal biotechnology. [5 Lectures]
8. Bioremediation and environmental biotechnology. [5 Lectures]
9. Medical biotechnology. [5 Lectures]
10. Biotechnology regulations and ethics. [2 Lectures]

Text Book:

Introduction to Biotechnology (3rd Edition) by William J. Thieman and Michael A. Palladino published by Benjamin-Cummings publishing company.

Other References:

Biotechnology for Beginners by Reinhard Renneberg published by Academic press.
Basic Biotechnology 3rd Edition by Ratledge Colin published by Cambridge university press.