

## CSIR NET UNIT 12 SYLLABUS - APPLIED BIOLOGY

CSIR NET UNIT 12 covers microbial fermentation and production, the application of immunological principles in vaccines and diagnostics, transgenic animals and plants, genomics and its applications in health and agriculture, bioresource utilization and biodiversity, breeding in plants and animals, bioremediation and phytoremediation for environmental cleanup, and the application of biosensors.

CSIR NET UNIT 12	Topics
A) Microbial Fermentation and Production	- Small and macro molecules production through microbial fermentation
B) Application of Immunological Principles	- Vaccines - Diagnostics - Tissue and cell culture methods for plants and animals
C) Transgenic Animals and Plants	- Molecular approaches to diagnosis and strain identification
D) Genomics and Its Application	- Health and agriculture applications - Gene therapy
E) Bioresource and Uses of Biodiversity	- Utilization of biodiversity in biotechnology
F) Breeding in Plants and Animals	- Marker-assisted selection
G) Bioremediation and Phytoremediation	- Environmental cleanup using biological methods
H) Biosensors	- Application of biosensors in various fields

**Study tips for CSIR NET UNIT 12:** Focus on practical applications of immunological principles, understand molecular approaches in genomics, and explore real-world examples of bioremediation and biosensor applications. Practice linking concepts to their practical implications for a comprehensive understanding.