

MAHATMA GANDHI UNIVERSITY

Dept. of Biotechnology

CBCS SYLLABUS

SEMESTER - IV

(CBCS-INTER-DISCIPLINARY PAPER)

APPLICATIONS OF BIOTECHNOLOGY

UNIT I- RECOMBINANT DNA TECHNOLOGY

- 1.1. Cloning
- 1.2. Enzymes
- 1.3. Vectors
- 1.4. Techniques Employed-PCR, Transformation & Blotting
- 1.5. Human Genome Project

UNIT II- PLANT BIOTECHNOLOGY

- 2.1. Plant Tissue Culture-Media, Explant, Initiation of Callus
- 2.2. Micro-propagation
- 2.3. Product of Commercial Products
- 2.4. Transgenic Plants and Crop Improvement

UNIT III- ANIMAL BIOTECHNOLOGY

- 3.1. Animal Tissue Culture
- 3.2. Development, Cloning and use of Transgenic Animals
- 3.3. Stem Cells & Their Applications

UNIT IV- INDUSTRIAL BIOTECHNOLOGY

- 4.1. Fermentation
- 4.2. Screening and Strain Development
- 4.3. Microbial Products
 - . Dairy Products
 - . Beverages
 - . Antibiotics
 - . Vitamins

RECOMMENDED BOOKS

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| 1. Bioinformatics | Rastogi |
| 2. Bioinformatics | David W Mount |
| 3. Plant Biotechnology | Chandra Karthick |
| 4. Text book of Animal Biotechnology | B. Singh, S. K. Gautam |
| 5. Gene Cloning and DNA Analysis | Terry Brown |