



**B. Sc. (MICROBIOLOGY) SEMESTER-VI  
Paper-II  
(Microbial Biotechnology and Recombinant DNA technology)**

**UNIT-I**

Recombinant DNA technology Introduction

[https://www.youtube.com/watch?v=OpU\\_CQ0pFyQ](https://www.youtube.com/watch?v=OpU_CQ0pFyQ)

Restriction enzymes

<https://www.youtube.com/watch?v=a5TMHIRxwFA>

Vectors:

<https://www.youtube.com/watch?v=ovWXCkc8oNw>

Construction of gene library:

[https://youtu.be/URtcaoNEIrI?si=CHRjmr\\_sl-XWVnWC](https://youtu.be/URtcaoNEIrI?si=CHRjmr_sl-XWVnWC)

PCR:

<https://www.youtube.com/watch?v=L4-XXENgxLA>

DNA finger printing:

<https://www.youtube.com/watch?v=ijps41MkSzw>

**UNIT-II**

Production of hormones: Insulin:

<https://www.youtube.com/watch?v=y4AMgE6B5jI>

Recombinant vaccine:

<https://youtube.com/watch?v=2aD233FazNg&feature=shared>

Production of Interferon:

<https://www.youtube.com/watch?v=uun9jFSALk>



Edible vaccines:

<https://www.youtube.com/watch?v=AZN8dZqqMcw>

Hybridoma technology Monoclonal antibody production:

<https://www.youtube.com/watch?v=U76Ll3OuBsU>

Gene Therapy:

<https://www.youtube.com/watch?v=BxEoX6TkitY>

### **UNIT-III**

Protoplast fusion-

<https://www.youtube.com/watch?v=O4VHRGFwIzk>

Application of Agrobacterium tumifaciens in gene transfer.

<https://www.youtube.com/watch?v=yesNHd9h8k0>

Production of Biofertilizers –

<https://www.youtube.com/watch?v=cyU8n2ykt0k>

Oriental Fermented food: soyasauce:

<https://www.youtube.com/watch?v=yKb5-Nb4wKY>

Definition and concept of golden rice:

<https://www.youtube.com/watch?v=v2B6Xp4Uud4>

Transgenic plants:

<https://www.youtube.com/watch?v=7UZxS1o4geQ>



#### **UNIT-IV**

Biosensors—General concept of construction, application:

<https://www.youtube.com/watch?v=q3xleKQODPs>

Glucose sensor:

<https://www.youtube.com/watch?v=6DsEtLfCEZw>

Concept of Nanobiotechnology:

[https://www.youtube.com/watch?v=j\\_wQgy97Pi4](https://www.youtube.com/watch?v=j_wQgy97Pi4)

Biochips- definition, example and applications:

<https://www.youtube.com/watch?v=8ZkOQBRekpw>

Immobilized enzymes – applications & general methods of production:

[https://www.youtube.com/watch?v=sL\\_iEOuvK80](https://www.youtube.com/watch?v=sL_iEOuvK80)

Ethics of biotechnology:

<https://www.youtube.com/watch?v=4EImBQba11c>