

## NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Chemistry and Biochemistry - NOC:Essentials of Biomolecules: Nucleic Acids and Peptides

Subject Co-ordinator - Prof. Lal Mohan Kundu

Co-ordinating Institute - IIT - Guwahati

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Importance of Biomolecules  
Lecture 2 - DNA double helix  
Lecture 3 - DNA and Proteins  
Lecture 4 - Amino acids and Proteins  
Lecture 5 - Protein 3D structures, folding and denaturation  
Lecture 6 - Chemical synthesis pyrimidine nucleobases  
Lecture 7 - Chemical synthesis purine nucleobases, Prebiotic chemistry  
Lecture 8 - Synthesis of nucleosides  
Lecture 9 - Solid phase DNA synthesis  
Lecture 10 - Chemistry and Biology of DNA Replication  
Lecture 11 - Chemistry of Polymerase Chain Reaction  
Lecture 12 - Major components and steps involved in Polymerase chain reaction  
Lecture 13 - DNA sequencing  
Lecture 14 - DNA sequencing  
Lecture 15 - Numerical Problem-1  
Lecture 16 - Sugar Chemistry  
Lecture 17 - Chemistry behind DNA damage and mutation  
Lecture 18 - Chemistry behind DNA damage and mutation  
Lecture 19 - DNA repair  
Lecture 20 - Transcription - The transfer of genetic information from DNA to mRNA  
Lecture 21 - Translation - The transfer of genetic information from mRNA to protein I  
Lecture 22 - Translation - The transfer of genetic information from mRNA to protein II  
Lecture 23 - Role of Ribosome in protein synthesis and the concept of codon  
Lecture 24 - Protein sequencing using Sanger's and Edman's degradation methods  
Lecture 25 - Mass spectroscopy and other sequencing methods for large proteins  
Lecture 26 - Solution phase peptide synthesis  
Lecture 27 - Peptide coupling agents, Solid phase synthesis, peptide based therapeutics  
Lecture 28 - Spectroscopic techniques  
Lecture 29 - Spectroscopic techniques - II and Purification technique-I of biomolecules

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## NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

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- Lecture 30 - Purification techniques - II and Characteriation techniques of biomolecules
- Lecture 31 - Molecular probes
- Lecture 32 - Molecular Probes
- Lecture 33 - Carbohydrate chemistry - I
- Lecture 34 - Carbohydrate chemistry - II
- Lecture 35 - Carbohydrate chemistry - III