

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

NPTEL Video Course - Chemistry and Biochemistry - NOC:Overview and Integration of Cellular Metabolism

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Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Bioenergetics: Understanding the significance in Biological Systems
- Lecture 2 - Regulation of Enzyme Activity
- Lecture 3 - Digestion and Absorption of Carbohydrates
- Lecture 4 - Glycolysis, alcohol and lactic acid fermentation
- Lecture 5 - Biochemistry of TCA Cycle (I)
- Lecture 6 - TCA Cycle (II) - Regulation and special characteristics
- Lecture 7 - Neoglucogenesis
- Lecture 8 - Regulation of Glycolysis and Neoglucogenesis - I
- Lecture 9 - Regulation of Glycolysis and Neoglucogenesis - II Cori Cycle, Rapoport Leubering
- Lecture 10 - Hexose Monophosphate Shunt : Steps and Phases
- Lecture 11 - Hexose Monophosphate Shunt : Regulation and Significance
- Lecture 12 - Glycogen Metabolism - I
- Lecture 13 - Glycogen Metabolism - II
- Lecture 14 - Glycogen Metabolism - III
- Lecture 15 - Glycogen Metabolism - IV
- Lecture 16 - Galactose Metabolism and Associated Disorders
- Lecture 17 - Fructose Metabolism and Associated Disorders
- Lecture 18 - Regulation of Blood Glucose
- Lecture 19 - Diabetes Mellitus and Metabolic Alterations
- Lecture 20 - Digestion and absorption of Lipid
- Lecture 21 - Lipoprotein Metabolism - I
- Lecture 22 - Lipoprotein Metabolism - II
- Lecture 23 - Lipoprotein metabolism - III
- Lecture 24 - Fatty acid catabolism (Oxidation of Fatty acids) - I
- Lecture 25 - Fatty acid catabolism (Oxidation of Fatty acids) - II
- Lecture 26 - Fatty acid catabolism (Oxidation of Fatty acids) - III
- Lecture 27 - Metabolism of Ketone Bodies
- Lecture 28 - Biosynthesis of Fatty acid and its regulation
- Lecture 29 - Biosynthesis of triacylglycerol, phosphoglycerides and sphingolipids

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- Lecture 30 - Cholesterol Metabolism
- Lecture 31 - Digestion and absorption of Protein
- Lecture 32 - Transformation of Amino acids
- Lecture 33 - Metabolism of Ammonia and ammonia toxicity
- Lecture 34 - Urea cycle - Steps, Significance and Energetics
- Lecture 35 - Urea Cycle - Regulation and Enzyme Deficiency Disorders
- Lecture 36 - Metabolism of Phenylalanine and Associated Disorders
- Lecture 37 - Tyrosine Metabolism - I
- Lecture 38 - Tyrosine Metabolism - II (Catecholamines)
- Lecture 39 - Tyrosine Metabolism - III
- Lecture 40 - Tryptophan Metabolism
- Lecture 41 - Metabolism of Sulphur containing Amino acids (Methionine and Cysteine)
- Lecture 42 - Metabolism of Glycine and its disorders
- Lecture 43 - Metabolism of Serine, Threonine and Alanine
- Lecture 44 - Branched chain amino acid metabolism and their disorders
- Lecture 45 - Metabolism of Histidine, Proline, Arginine and Lysine
- Lecture 46 - Heme Metabolism - I (Heme Synthesis and Regulation)
- Lecture 47 - Heme Metabolism - II (Disorders of Heme Synthesis - Porphyrias)
- Lecture 48 - Heme Metabolism - III (Heme Degradation, Transport and Bilirubin Metabolism)
- Lecture 49 - Disorders of Bilirubin Metabolism
- Lecture 50 - Nucleotide Metabolism - I (Purine Metabolism)
- Lecture 51 - Nucleotide Metabolism - II (Disorders of Purine Metabolism)
- Lecture 52 - Nucleotide Metabolism - III (Pyrimidine Metabolism and Disorders)
- Lecture 53 - Inborn errors of Metabolism
- Lecture 54 - Integration of Metabolism - I (Cellular and Organ level integration)
- Lecture 55 - Integration of Metabolism - II (Starve feed cycle)
- Lecture 56 - Integration of Metabolism - III (Metabolic Control Analysis)
- Lecture 57 - Obesity, Metabolic Syndrome and Role of Adipokines
- Lecture 58 - Fatty Liver and alcohol metabolism
- Lecture 59 - Energy metabolism and Nutritional disorders, Protein Energy Malnutrition and Dietary
- Lecture 60 - Metabolism in Cancer Cells