IMPORTANT TOPICS FOR 11th BIOLOGY BOARD EXAMS 2025

CHAPTER-01 (Cell And Sub-Cellular Organelles)

- Cell Wall
- Pathways Of A Signals
- Golgi Apparatus
- Mitochondria
- Endoplasmic Reticulum
- Lysosome And Its Diagram Analysis
- Peroxisomes And Glyoxysomes (Difference)
- Prokaryotes And Eukaryotes (Difference)
- Stem Cells
- Endocytosis And Exocytosis (Difference)

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CHAPTER-02 (Biological Molecules)

- Properties Of Water (Important) = Conceptual Questions
- Classification Of Carbohydrates
- Glycoside Bond In Disaccharides
- Proteins And It's Structure And Difference B/W Essential And Non –
 Essential Amino Acids
- Formation Of Peptide Linkage

Phosphodiester Bonds

- Properties Of Lipids
- Steroids And Prostaglandin
- General Structure Of Nucleotide
- Watson And Crick Model Of DNA (Important)
- Types Of RNA
- Polymerization Of Nucleotides

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CHAPTER-03 (Enzymes)

- Difference Between Cofactors
- Mechanism Of Enzyme Action

(Lock And Key Model)

(Induced Fit Model) Difference B/W Them + Their Structures

- Activation Energy
- Effect Of Temperature On Enzymes Action
- Competitive And Non-Competitive (Difference)
- Classification Of Enzymes (Reaction Type + Substrate)

CHAPTER-04 (Bioenergetics)

- Role Of Water (Neil Hypothesis)
- Difference In Absorption Of Spectrum Of Chlorophyll A And B
- Cyclic And Non Cyclic Phosphorylation (Difference Between Them)

- Calvin Cycle
- Glycolysis
- Kreb Cycle
- ETC
- Chemiosmosis And Substrate Level Phosphorylation (Short)

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CHAPTER-05 (Acellular Life)

- Classification Based On Host
- Bacteriophage Life Cycle
- HIV Life Cycle
- Opportunistic Diseases

CHAPTER-6 (Prokaryotes)

- Cyanobacteria
- Modes Of Nutrition In Bacteria
- Structure Of Bacterial Flagellum
- Phases Of Growth Reproduction In Bacteria And Bacterial Flora Of Humans
- Difference In Photosynthesis Mechanism Of Cyanobacteria And Other Photosynthetic Bacteria

CHAPTER-7 (Protista And Fungi)

- Diversity And Polyphyletic Origin Of Protists
- Mutualism In Fungi (Mycorrhiza And Lichens)

CHAPTER-8 (Kingdom Plantae)

- General Classification Of Kingdom Plantae
- Characteristic Features Of Bryophyte, Angiosperm And Pteridophyta

CHAPTER-9 (Diversity In Plant Functions)

- Difference Between The Pathways Of Water Transport
- TACT Theory
- Mechanism Of Translocation
- K+Positive Ions Influx/Efflux Theory For Opening And Closing Of Stomata Translocation
- Osmotic Adjustment In Plants Living In Different Environments
- Annual Rings (Short)
- Photoperiodism And Mechanism Of Photo Periodism

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- Difference Between Protosomes And Deuterostome's
- Difference Between Acoelomate Pseudocoelomate And Coelomate
- Phylum Chordates
- Phylum Arthropods
- Phylum Platyhelminthes, Phylum Cnidaria And Phylum Porifera.

CHAPTER-11 (Reproduction)

Male And Female Reproductive System

- Hormonal Control Of Male Reproductive System
- Female Reproductive Cycle

CHAPTER-12 (Inheritance)

- Incomplete & Codominance
- Polygenic Inheritance
- Epistasis
- Pedigrees & Genetic Problems
- Universal Donor And Universal Recipient

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CHAPTER-13 (Chromosomes & DNA)

- DNA Replication
- Models Of DNA Replication
- Transcription
- Translation
- Experiment To Prove That Replication Of DNA Is Semi-Conservative

CHAPTER-14 (Evolution)

- Lamarckism
- Darwinism
- Evidence From Comparative Anotomy

CHAPTER-15 (Man And His Environment)

- Nitrogen Cycle
- Ecological Succession
- Acid Rain

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