BIOLOGY

1.	Bio-diversity (acellular life / variety of life)
2.	Bio-energetics
3.	Biological molecules
4.	Cell structure and function
5.	Coordination and control / nervous & chemical coordination
6.	Enzymes
7.	Evolution
8.	Life processes in animals and plants (nutrition / gaseous exchange / transport)
9.	Prokaryotes
10.	Reproduction
11.	Support and movement
12.	Variation and genetics / inheritance

TOPICS

1. **Biodiversity (Acellular life / Variety of life)**
   a. Classification of viruses
   b. Structure of viruses

2. **Bioenergetics**
   a. Anaerobic respiration (respiration without oxygen)
   b. Electron transport chain
   c. Glycolysis / aerobic respiration
   d. Photosynthesis
   e. Production of ATP
   f. Role of light, water, CO_2, / factors effecting photosynthesis

3. **Biological molecules**
   a. Introduction to biological molecules
   b. Water
   c. Carbohydrates
   d. Proteins
   e. Lipids
   f. Conjugated molecules (glycolipids, glycoproteins)

4. **Cell structure and function**
   a. Cell wall
   b. Cytoplasm and cell organelles
      1) Nucleus
      2) RNA
      3) Endoplasmic reticulum
      4) Mitochondria
      5) Golgi apparatus / golgi complex / golgi bodies
      6) Lysosomes
      7) Plastids/chloroplasts
      8) Vacuoles
   c. Prokaryote and eukaryote
   d. Fluid mosaic model

5. **Coordination and control / nervous & chemical coordination**
    a. Nervous system
        1) Nerve impulse
        2) Steps involved in nervous coordination
        3) Neurons (Structure and Types)
    b. Transmission of action potential between cells–synapse
        1) Electrical synapses
        2) Chemical synapses
        3) Transmission of nerve impulse across synapse
    c. Hormones
    d. Endocrine glands
    e. Feedback mechanism
        1) Positive feedback mechanism
        2) Negative feedback mechanism
    f. Reflexes and reflex arc
    g. Levels of the spinal cord and its main functions
    h. Parts of the brain with their main functions

6. **Enzymes**
    a. Introduction / characteristics of enzymes
    b. Mechanism of action of enzymes
    c. Factors effecting rate of enzyme action
    d. Enzyme inhibition

7. **Evolution**
    a. Inheritance of acquired characteristics
    b. Darwinism
    c. Darwin's theory of evolution

8. **Life processes in animals and plants (nutrition / gaseous exchange / transport)**
    a. Osmotic pressure / potential
    b. Cardiovascular system (including human heart structure, blood vessels)
    c. Respiratory system
    d. Digestive system
    e. Immune system
    f. Lymphatic system

9. **Prokaryotes (Kingdom Monera)**
    a. Cellular Structure of bacteria
    b. Shape and size of bacteria
    c. Importance and control of bacteria

10. **Reproduction**
    a. Male reproductive system
    b. Female reproductive system (including menstrual cycle)

11. **Support and movement**
    a. Cartilage
    b. Types of muscles
        1) Skeletal muscles
        2) Cardiac muscles
        3) Smooth muscles
    c. Structure of skeletal muscles
    d. Mechanism of skeletal muscle contraction
    e. Types of joints

12. **Variation and genetics / inheritance**
    a. Mendel's law of inheritance
        1) Inheritance of single trait
        2) Mendel's principles of inheritance
        3) Inheritance of two traits
        4) Law of independent assortment
    b. Multiple alleles
    c. Sex linkage in human