Biology III
(Semester 4)

Advanced Biology

Unit -1- Cellular Energetic:

- Glycolysis
- Citric acid cycle
- Electron transport

Unit -2- Anatomy and Physiology:

- Level of organization in living bodies
- The Nervous system of man at cellular level
- The five senses
- The Endocrine system

Unit-3- Biochemistry:

- Building blocks: Structure and function of ;
    - Carbohydrates
    - Amino acid
    - Polypeptides and proteins
    - Lipids and related compounds
    - Nucleotides and nucleic acid (RNA & DNA)

Unit-4- Molecular Biology and Genetics:

- Storage and Expression of Genetic information
- Regulation of gene expression

Unit -5- Microbiology:

- Introduction , development and scope of immunology
- Classification and types of immunity
- Diagnosis , treatment , prevention and control of the following diseases;
    - Bacterial Diseases:
        - Infections caused by staphylococci and streptococci (sore throat)
        - Infections of Staphylococci: carbuncle, acne, furuncle and scalded skin syndrome.
        - Typhoid
        - Bacillary dysentery
        - Cholera
        - Diphtheria
        - Tetanus
        - Tuberculosis
    - Viral diseases:
        - Influenza
        - Poliomyelitis
        - Rabies
        - Hepatitis
        - AIDS

- Fungal Diseases:
  - Dermatomycosis: including
  - Tinea unguum,
  - Tinea corporis and
  - Tinea capitis

- Protozoa Diseases:
  - Dysentery : Amoebiasis and giardiasis
  - Maleria

Unit-6-Evolution:

- Darwinism
- Lamarckism

Unit-7-Food and Nutrition:

- Causes of food spoilage
- Factors contributing food contamination
- Symptoms of food poisoning 9stomach pain, vomiting,, diarrhoea)
- Food preservation
- Terminologies :(sterilization, enzyme action , pectin , blanch ,canning bottling, dehydration and pickling)
- Reasons for preserving food
- Methods for preserving food
  - Heating
  - Dehydration
  - Freezing
  - Preserving through chemicals and additives
  - Using enzymes and bacteria