

BCECE Biology Syllabus

The BCECE biology syllabus consists of topics that are included in the 10th and 12th standards.

The following are the topics included in the biology syllabus:

Diversity in the Living World

- Diversity Of Living Organisms.
- Classification Of the Living Organisms
- Systematic And Binomial System of Nomenclature.
- Salient Features of Animal and Plant Classification.
- Botanical Garden, Herbaria, Zoological Parks Museums

Structural Organisation in Animals and Plant

- Tissues In Animals and Plants.
- Morphology, Anatomy, And Functions of Different Parts of Flowering Plants: Root, Stem, Leaf, Inflorescence, Flower, Fruit and Seed.
- Morphology, Anatomy, And Functions of Different Systems of An Annelid (Earthworm), An Insect (Cockroach) And an Amphibian (Frog.)

Cell: Structure and Function

- Cell: Cell Wall, Cell Membrane and Cell Organelles and Nuclear Organisation
- Mitosis, Meiosis, Cell Cycle. Basis Chemical Constituents of Living Bodies
- Structure And Functions of Carbohydrates, Proteins, Lipids and Nucleic Acids
- Enzymes: Types, Properties, And Function
- Plant Physiology
- Movement Of Water, Food, Nutrients, And Gases
- Plants and Water: Mineral Nutrition Respiration Photosynthesis Plant Growth and Development

Human Physiology

- Digestion And Absorption
- Breathing And Respiration
- Body Fluids and Circulation
- Excretory Products and Elimination
- Locomotion And Movement
- Control And Coordination

Sexual Reproduction in Plants

- Pollination And Fertilisation in Flowering Plants.
- Development Of Seeds and Fruits.
- Human Reproduction: Reproductive System in Male and Female, Menstrual Cycle.
- Production Of Gametes, Fertilisation, Implantation, Embryo Development, Pregnancy, And Parturition.
- Reproductive Health-Birth Control, Contraception, And Sexually Transmitted Diseases.

Genetics and Evolution

- Mendelian Inheritance

- Chromosome Theory of Inheritance, Deviations from Mendelian Ratio
- Sex Determination in Human Beings: XX, XY, Linkage and Crossing Over
- Inheritance Pattern of Haemophilia and Blood Groups in Human Beings.
- DNA: Replication, Transcription, Translation
- Gene Expression and Regulation
- Genome and Human Genome Project.
- DNA Fingerprinting.
- Evolution: Theories and Evidence.

Biology and Human Welfare

- Animal Husbandry
- Basic Concepts of Immunology, Vaccines
- Pathogens, Parasites
- Plant Breeding, Tissue Culture, Food Production
- Microbes In Household Food Processing
- Industrial Production, Sewage Treatment, And Energy Generation
- Cancer And Aids
- Adolescence And Drug/Alcohol Abuse

Biotechnology And Its Applications

- Recombinant DNA Technology
- Applications In Health, Agriculture, And Industry
- Genetically Modified Organism; Biosafety Issues
- Insulin And Cotton

Ecology and Environment

- Ecosystems: Components, Types, And Energy Flow.
- Species, Population, And Community.
- Ecological Adaptations.
- Centres of diversity and conservation of biodiversity, national parks, and sanctuaries.
- Environmental issues.