

**ICSE · CLASS 10**

Biology (Science Paper 3)

Detailed study of Cell Cycle, Genetics, Plant Physiology (Osmosis, Transpiration, Photosynthesis), Human Physiology (Circulatory, Excretory, Nervous, Endocrine, Reproductive systems), Population, and Environmental Pollution.

Board: Council for the Indian School Certificate Examinations**Theory:** 80 Marks**Internal/Practical:** 20 Marks**Exam Duration:** 2 Hours

UNIT-WISE SYLLABUS & MARKS BREAKDOWN

UNIT	CHAPTERS & PRESCRIBED TOPICS	MARKS
Unit 1	Basic Biology Cell Cycle and Cell Division: Cell cycle phases (Interphase, Mitosis: prophase, metaphase, anaphase, telophase, cytokinesis; Meiosis significance); Chromosome structure, DNA, genes; Genetics: Mendel's laws of inheritance, monohybrid and dihybrid cross ratios, sex determination in humans, sex-linked inheritance (haemophilia, colour blindness)	14
Unit 2	Plant Physiology Absorption by roots: Imbibition, diffusion, osmosis, turgidity, plasmolysis, root pressure; Transpiration: Process, factors affecting, experiments, guttation and bleeding; Photosynthesis: Chloroplast structure, light and dark reactions, chlorophyll, experiments to prove necessity of light, CO ₂ , chlorophyll, and formation of O ₂ and starch; Chemical coordination in plants: Auxins, gibberellins, cytokinins, ethylene, abscisic acid	18
Unit 3	Human Anatomy and Physiology Circulatory System: Blood composition, blood groups, Rh factor, structure of heart, cardiac cycle, double circulation, pulse and blood pressure, lymphatic system; Excretory System: Urinary system, kidney structure, nephron structure, urine formation (ultrafiltration, selective reabsorption); Nervous System: Neuron structure, central nervous system (brain and spinal cord), peripheral and autonomic nervous systems, reflex arc; Sense Organs: Eye (structure, accommodation, defects and correction), Ear (structure and hearing/balancing mechanism); Endocrine System: General study of glands: pituitary, thyroid, pancreas, adrenal; Reproductive System: Male and female reproductive systems, menstrual cycle, fertilization, embryo development	32
Unit 4	Population Population explosion in India, demography, reasons for rapid population increase, problems of population growth, population control measures	08
Unit 5	Human Evolution & Pollution Theories of evolution (Lamarckism, Darwinism); Pollution: Types of pollution (air, water, soil, noise, radiation), ozone depletion, greenhouse effect and global warming, acid rain, waste management	08

INTERNAL / PRACTICAL ASSESSMENT SCHEME (20 MARKS)

EVALUATION COMPONENT	MARKS WEIGHTAGE
Practical Work Journal Physiological experiment setups, microscopic slide observation, biological specimens	20 Marks

RECOMMENDED REFERENCE LITERATURE

Prescribed Textbooks: Concise Biology Class 10 (Selina), Sarita Aggarwal Biology, Excellence High-Yield Biology Diagram Compendium

The Excellence Tuition Edge

Every unit in this curriculum is taught with structured conceptual lectures, followed by weekly speed-testing, detailed mistake analysis, and dedicated 1:1 doubt-clearing sessions to build board exam confidence.

Excellence Tuition Centres: Sarsuna (Opp. High School) · Joka · Chatterjee Para (Behala)

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