**SCIENCE (BIOLOGY) SYLLABUS**

**CLASS – IX**

**Session 2018 – 2019**

**Chapter 5: The fundamental unit of life**

Cell as a basic unit of life, prokaryotic and eukaryotic cells, cell number, cell membrane and cell wall, cell organelles and cell inclusions: chaloroplast, mitochondria, vacuoles, ER, Golgi apparatus, nucleus, centrosomes – basic structures.

**Chapter 6: Tissues**

Structure and functions of animals and plant tissues (only four types of tissues in animals, meristematic and permanent tissue in animals).

**Chapter 7: Diversity in Living Organism**

Diversity in plants and animals – basic issues in scientific naming, basic classification, Hierarchy of categories/ group, major groups of plants (silent features) (Bacteria, thallophyta, bryophyte, pteridophyta, gymnosperms and angiosperms). Major groups of animals (silent features), non chordate upto phyla and chordate up to classes.

**Chapter 13: Why do we fall ill!**

Health and its failure: infectious and non-infectious diseases, their causes and manifestation. Diseases caused by microbes (virus, bacteria, and protozoans), and their prevention, principles of treatment and prevention, pulse polio programmes.

**Chapter 14: Natural Resources**

Physical resources: air, water, soil. Air is for respiration, for combustion, temperatures, movements of air and its role in bringing rain across India.

Air, water and soil pollution (brief introduction), hole in ozone layer and the probable changes.

Bio-geo chemical cycles in nature: water, Oxygen, Carbon and Nitrogen.

**Chapter 15: Improvement in food resources.**

Plant and animals breeding and selection for quality improvement and management. Use of fertilizers and manure, protection from pests and diseases, organic farming.

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|  | **CHAPTERS DISTRIBUTION** |
| **PERIODIC TEST I** | Chapter 5: The Fundamental Unit of Life.  Chapter 6: Tissues |
| **PERIODIC TEST II** | Chapter 5: The Fundamental Unit of Life.  Chapter 6: Tissues  Chapter 7: Diversity in living organisms  Chapter 13: Why do we fall ill! |
| **PERIODIC TEST III** | Chapter 5: The Fundamental Unit of Life.  Chapter 6: Tissues  Chapter 7: Diversity in living organisms  Chapter 13: Why do we fall ill!  Chapter 14: Natural Resources  Chapter 15: Improvement of food resources |
| **TERM END EXAM** | Chapter 5: The Fundamental Unit of Life.  Chapter 6: Tissues  Chapter 7: Diversity in living organisms  Chapter 13: Why do we fall ill!  Chapter 14: Natural Resources  Chapter 15: Improvement of food resources |

**PRACTICALS:**

1. Preparation of temporary mount of – onion peel and human cheek cells.
2. Identification of parenchyma, collenchyma and sclerenchyma tissues in plants. Striped, smooth and cardiac muscles fibres and nerve cells in animals. (Prepared slide observation).
3. Study of the characteristics of spirogyra, agaricus, moss, ferns, pinus (male/female) and an angiospermic plant.
4. Observe pictures/charts/models of earthworm, cockroach, bony fish and birds. Draw their diagrams and records – specific features of its phylum, one adaptive feature with reference to habitat.
5. Study the external features of root, stem, leaf and flower of monocot and dicot plants.