Pakistan Urdu School- Kingdom of Bahrain

Curriculum Implementation Plan for Biology Grade XII

No.	Month	Starting Date	Topics from Textbook or Others (Specify Unit Titles and Numbers)	National Curriculum References (Competency, Standards, Themes)	Total Periods
1	May/June	20-05-18	**Unit 15 Homeostasis** Mechanism of Homeostasis • Osmoregulation • Excretion • Excretory system of man • Disorders of Urinary system • Thermoregulation	**Standard: 1 a** **Theme: Study of life and Cell Biology.** Student will be able to understand the principles of Biology, Diversity in life forms, structure and functions of cell, the processes of life, how living things interact with each other and their environment and the applications of biology for human welfare.	15
2	August/ September	28-08-18	**Unit – 16 Support and Movement** • Support in Plants • Movement in Plants • Support and movement in animals • Human Skeleton	**Standard: 1 a** **Theme: Science of Hormones** Student will be able to understand and explain the plant structures, functions & their response (chemical) to environment. They will interpret the human body's chemical and nervous response.	30
3	September		**Unit – 17 Coordination and Control** • Co-ordination in plants • Co-ordination in animals • Nervous co-ordination • Neurons • Nerve Impulse • Synapse • Human Nervous system • Chemical co-ordination	**Standard: 1 a** **Theme: Science of Hormones** Student will be able to understand and explain the plant structures, functions & their response (chemical) to environment. They will interpret the human body's chemical and nervous response.	16

4	September/ October		**Unit – 18 Reproduction** • Reproduction in plants • Seed Dormancy • Photoperiodism • Vernalisation • Reproduction in animals • Reproduction in man • Birth • Sexually transmitted diseases(STD's)	**Standard: 2 a** **Theme: Reproduction in living organisms.** Students will be able to display a sense of curiosity and wonder about the natural world.	8
5	October		**Unit – 19 Growth and Development** • Differentiation and growth correlations • Growth and development in animals • Development in Chick • Mechanisms of development • Concept of differentiation • Embryonic induction • Aging • Regeneration • Abnormal developments	**Standard: 2 a** **Theme: Reproduction in living organisms.** Students will be able to demonstrate an increasing awareness to new patterns of growth and development with respect to science and technology.	12
6	October		**Unit – 20 Chromosomes and DNA** • Types and composition of Chromosomes • Chromosomal theory of inheritance • DNA as a hereditary material • DNA replication • Gene expression • RNA and Protein synthesis • Mutation	**Standard: 1 a,2 a** **Theme: DNA as hereditary material** Students will identify the core of genetics and inheritance They will show an understanding of gene, its function and significance for life and life generation after generations.	6
7	November		**Unit – 21 Cell Cycle** • Mitosis • Cancer • Meiosis • Meiotic errors • Necrosis and Apoptosis	**Standard: 1 a** **Theme: Study of life and Cell Biology.** Students will be able to demonstrate the patterns of cell division. They will depict an understanding of gametes	6

				and causes of mutation and consequences of it.	
8	November		**Unit – 22 Variation and Genetics** • Genes, Alleles and gene pool • Mendel's Laws of Inheritance • Dominance Relations • Blood group systems • Epistasis and Pleiotropy • Continuously varying traits • Gene linkage and crossing over • Sex determination • Sex linkage • Diabetes mellitus and its genetic basis	**Standard: 1 a** **Theme: Study Variety of life on Earth.** Students will rediscover the historical advancements in the field of biology, the reasons, causes and symptoms of genetic problems will be explored.	12
	November/ December		**Unit – 23 Biotechnology** • Gene cloning • DNA Analysis • DNA Sequencing • Human Genome Project • Transgenic Bacteria, Plants and Animals • Tissue Culture • Genetic Engineering • Production of Biotechnology Products	**Standard: 1 a** **Theme: Study of Genetics and Cell Biotechnology.** Student will be able to understand the principles of Biology, Diversity in life forms, structure and functions of cell, the processes of life, how living things interact with each other and their environment and the applications of biology for human welfare.	12
9	January	06-01-19	**Unit – 24 Evolution** • Concept of Evolution • Evolution from Prokaryotes to Eukaryotes • Inheritance of Acquired Characters • Lamarckism • Darwinism • Neo Darwinism • Evidences of Evolution • Population, Gene pool, genotype frequencies • Endangered Species	**Standard: 2 a** **Theme: Evolutionary trends** Student will explore the evolutionary advancements and the founder's traits in the way of evolution. The students will learn how and what ideas were given by the various scientists on evolution.	18

			• Concept of Evolution • Evolution from Prokaryotes to Eukaryotes		
10	January		**Unit – 25 Ecosystem** • Ecosystem • Components of Ecosystem • Ecological Succession • Biogeochemical cycles • Flow of Energy in food chain • Aquatic Ecosystem • Intervention of man in aquatic ecosystem • Terrestrial Ecosystem • Forest Ecosystem • Some major ecosystems in Pakistan • Grassland ecosystem • Desert ecosystem • Tundra ecosystem • Humans and Ecosystems	**Standard: 1 a** **Theme: Study of life and Cell Biology.** Student will be able to understand the principles of Biology, Diversity in life forms, structure and functions of cell, the processes of life, how living things interact with each other and their environment and the applications of biology for human welfare.	2
11	January		**Unit – 26 Man and His Environment** • Renewable and Non-renewable Resources • Degradation and Depletion of resources • Human Impact on environment • Pollution • Health and diseases	**Standard: 1 a** **Theme: Study of life and Cell Biology.** Student will be able to understand the principles of Biology, Diversity in life forms, structure and functions of cell, the processes of life, how living things interact with each other and their environment and the applications of biology for human welfare.	4

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