

BAGARIA BAL VIDYA NIKETAN

LAXMANGARH SIKAR

SYLLABUS & LESSON PLANNER - 2024-2025

Class	XII-Science
Subject	Biology
Teacher Name	Ramdev Dayma

Unit	Name of Books	Name of Chapter	Working Day	Period	Topic	Month	Week
Unit - VI Reproduction		Chapter-1 Sexual Reproduction in Flowering Plants	23	32	Flower structure; development of male and female gametophytes; pollination - types, agencies and examples; out breeding devices; pollen-pistil interaction; double fertilization; post fertilization events - development of endosperm and embryo, development of seed and formation of fruit; special modes- apomixis, parthenocarpy, polyembryony; Significance of seed dispersal and fruit formation	April	4
		Chapter-2 Human Reproduction			Male and female reproductive systems; microscopic anatomy of testis and ovary; gametogenesis -spermatogenesis and oogenesis; menstrual cycle; fertilisation, embryo development upto blastocyst formation, implantation; pregnancy and placenta formation (elementary idea); parturition (elementary idea); lactation (elementary idea).		
		Chapter-3 Reproductive Health			Need for reproductive health and prevention of Sexually Transmitted Diseases (STDs); birth control - need and methods, contraception and medical termination of pregnancy (MTP); amniocentesis; infertility and assisted reproductive technologies - IVF, ZIFT, GIFT (elementary idea for general awareness).		

Unit-VII Genetics and Evolution	N.C.E.R.T	Chapter-4 Principles of Inheritance and Variation Heredity and variation:	13	16	Mendelian inheritance; deviations from Mendelism – incomplete dominance, co-dominance, multiple alleles and inheritance of blood groups, pleiotropy; elementary idea of polygenic inheritance; chromosome theory of inheritance; chromosomes and genes; Sex determination - in humans, birds and honey bee; linkage and crossing over; sex linked inheritance - haemophilia, colour blindness; Mendelian disorders in humans - thalassemia; chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes.	May	2
		Chapter-5 Molecular Basis of Inheritance	11	14	Search for genetic material and DNA as genetic material; Structure of DNA and RNA; DNA packaging; DNA replication; Central Dogma; transcription, genetic code, translation; gene expression and regulation - lac operon; Genome, Human and rice genome projects; DNA fingerprinting	June	2
		Chapter-6 Evolution	26	32	Origin of life; biological evolution and evidences for biological evolution (paleontology, comparative anatomy, embryology and molecular evidences); Darwin's contribution, modern synthetic theory of evolution; mechanism of evolution - variation (mutation and recombination) and natural selection with examples, types of natural selection; Gene flow and genetic drift; Hardy - Weinberg's principle; adaptive radiation; human evolution	July	4
Chapter-7 Human Health and Diseases		Pathogens; parasites causing human diseases (malaria, dengue, chikungunya, filariasis, ascariasis, typhoid, pneumonia, common cold, amoebiasis, ring worm) and their control; Basic concepts of immunology - vaccines; cancer, HIV and AIDS; Adolescence - drug and alcohol abuse.					
Unit-VIII Biology and Human Welfare							

Welfare		Chapter-10 Microbes in Human Welfare			Microbes in food processing, industrial production, sewage treatment, energy generation and microbes as bio-control agents and bio-fertilizers. Antibiotics; production and judicious use.		
Unit-IX Biotechnology and its Applications		Chapter-11: Biotechnology - Principles and Processes	24	32	Genetic Engineering (Recombinant DNA Technology)	August	4
		Chapter-12: Biotechnology and its Applications			Application of biotechnology in health and agriculture: Human insulin and vaccine production, stem cell technology, gene therapy; genetically modified organisms - Bt crops; transgenic animals; biosafety issues, biopiracy and patents.		
Unit-X Ecology and Environment		Chapter-13: Organisms and Populations	23	32	Population interactions - mutualism, competition, predation, parasitism; population attributes - growth, birth rate and death rate, age distribution. (Topics excluded: Organism and its Environment, Major Abiotic Factors, Responses to Abiotic Factors, Adaptations)	Sept.	4
	Chapter-14: Ecosystem	ecosystems: Patterns, components; productivity and decomposition; energy flow; pyramids of number, biomass, energy (Topics excluded: Ecological Succession and Nutrient Cycles).					
		Chapter-15: Biodiversity and its Conservation	23	32	Biodiversity-Concept, patterns, importance; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife, sanctuaries and Ramsar sites.	November	4