



SANT NANDLAL SMRITI VIDYA MANDIR, GHATSILA
YEARLY SYLLABUS CLASS XII
SUBJECT BIOLOGY
SESSION-2025-26



MONTH	WORKING DAYS	WEEKS	NUMBER OF PERIODS	TOPIC TO BE TAUGHT	ACTIVITIES	LEARNING OUTCOMES (THE STUDENT WILL BE ABLE TO)	VALUES IMPARTED
APRIL	21	1 st week	6 PERIODS	Chapter-2: Sexual Reproduction in Flowering Plants Flower structure, development of male and female gametophytes, pollination types, agencies and examples, outbreeding devices, pollen-pistil interaction, double fertilization, post fertilization events development of endosperm and embryo, development of seed and formation of fruit, special modes apomixis, polyembryony. Significance of seed dispersal and fruit formation.	1. Study pollen germination on a slide.	1. Discuss sexual reproduction in plants 2. Describe the sexual parts of a plant 3. Describe the process of pre fertilization, fertilization and post fertilization changes in plants	1. Cooperation and coordination 2. Scientific temper 3. Rationality
		2 nd week	6 PERIODS	Chapter-3: Human Reproduction Male and female reproductive system, microscopic anatomy of testes and ovary, gametogenesis spermatogenesis and oogenesis,	2. Study the plant population density by quadrat method.	1. Explain sexual reproduction in man 2. Describe the structure of reproductive organs in humans	1. Cooperation and coordination 2. Scientific temper 3. Rationality 4. Universality

		3 rd week	6 PERIODS	menstrual cycle fertilization, , embryo development up to blastocyst formation, implantation, pregnancy and placenta formation (elementary idea)parturition(elementary idea) and lactation(elementary idea). + class test	3. Study the plant population frequency by quadrat method	3. Describe the process of spermatogenesis , oogenesis and fertilization in humans 4. describe the process of embryogenesis and parturition in humans	5.Free enquiry 6.Curiosity 7.Mutual respect
		4 th week	6 PERIODS	Chapter-4:Reproductive Health Need for reproductive health and prevention of STD birth control-- need and methods, contraception.	4. Prepare a temporary mount of onion root tip to study mitosis.	1.Illustrate the process of in- vitro fertilization 2.Explain the methods of birth control	1.Cleanliness 2.Scientific temper 3.Rationality
MAY	09	1 st week	6 PERIODS	Medical termination of pregnancy, amniocentesis; infertility and ART- IVF,ZIFT,GIFT (elementary idea for general awareness	5. Isolate DNA from available plant material such as spinach, green pea seeds, papaya, etc.	3.Explain the methods of assisted reproductive technologies 4.Explain the phenomenon of cloning	4.Appreciation of nature 5.Acquisition of knowledge 6.Keeping an open mind
		2 nd week	6 PERIODS	Chapter-5:Principles of Inheritance and Variation Mendelian laws of inheritance , deviation from Mendelism ,incomplete dominance, codominance, multiple alleles and inheritance of blood groups, pleiotropy, elementary idea of polygenic inheritance,	6.Flowers adapted to pollination by different agencies.(wind, insect, bird)	1.Explain the concept of inheritance 2.Describe Mendel's laws of inheritance 3.Explain the reason of deviation from mendelism.	1.Appreciation of the building blocks 2.Creativity 3.Planning
JUNE	11	3 rd week	6 PERIODS	chromosome theory of inheritance; chromosomes and genes; sex determination in humans, birds and honeybees, linkage and crossing over; sex linked inheritance – haemophilia, color blindness; Mendelian disorders in humans - thalassemia, chromosomal disorders in humans, down syndrome, turner's and klinefelter's syndromes	7. Pollen germination on stigma through a permanent slide Or scanning electron micrograph.	4.Describe chromosomes , genes and the chromosomal theory of inheritance 5.Explain the process of linkage and crossing over 6.Describe mendelian disorders and chromosomal disorders in humans.	4.Scientific temper 5.Keeping an open mind

		4 th week	6 PERIODS	Chapter-6:Molecular Basis of Inheritance Search for genetic material, The DNA, RNA world. Structure of DNA and RNA, DNA packaging ,Replication of DNA, central dogma, Transcription, Genetic code, Translation, Regulation of gene	8. Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice).	1.Explain the structure of DNA and RNA and their packaging inside the cell. 2.Explain replication , transcription and translation of DNA.	1.Enquiry 2.Critical observations 3.Coordination for a common cause
JULY	26	1 st week	6 PERIODS	expression, lac operon, Human and rice genome project, DNA fingerprinting	9. Meiosis in onion bud cell or grasshopper testis through permanent slides.	3.Describe the process of regulation of gene expression. 4.Explain DNA fingerprinting	4.Patience while conducting experiments.
		2 nd week	6 PERIODS	Chapter-7:Evolution Origin of life ,biological evolution, 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	10. T.S. of blastula through permanent slides (Mammalian).	1.Explain the origin of life and biological evolution. 2.Explain the modern synthetic theory of evolution.	1.Curiosity 2.Creativeness 3.Freedom of individuals from superstitious beliefs
		3 rd week	6 PERIODS	Gene flow and genetic drift, Hardy-Weinberg principle, adaptive radiation, human evolution. + 1 st pre term test	11. Mendelian inheritance using seeds of different color/sizes of any plant.	3. Describe gene flow and genetic drift 4.Explain adaptive radiation and human evolution	4.Appreciation of nature and its working
		4 th week	6 PERIODS	Chapter-8:Human Health and Diseases-- Pathogens ,parasites causing human diseases (malaria, dengue, chikungunya, filariasis, ascariasis, typhoid, pneumonia, common cold,	12. Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear	1.Will be able to illustrate parasites causing human diseases and their control 2. Explain the mechanism of cancer , HIV and AIDS	1.Environmental sensitivity. 2.Care and cleanliness of surroundings

				amoebiasis, ringworm) and their control,	lobes, widow's peak and color blindness.		
AUGUST	24	1 st week	6 PERIODS	Chapter-8: Human Health and Diseases continued-- basic concepts of immunology- vaccines ,cancer, HIV and AIDS, Adolescence-Drug and alcohol abuse.	13. Controlled pollination - emasculation, tagging and bagging.	3. Explain the impact of various drugs and alcohol abuse on society	3.Welfare and hygiene of the mankind 4.Importance of good habits.
		2 nd week	6 PERIODS	Chapter-10: Microbes in human welfare-- Microbes in food processing, industrial production, sewage treatment, energy generation and microbes as bio control agents and biofertilizers. Antibiotics production and judicial use	14. Common disease causing organisms like Ascaris, Entamoeba, Plasmodium, any fungus causing Roundworm through permanent slides, models or virtual images or specimens. Comment on symptoms of diseases that they cause.	1.Explain the role of microbes in household food processing and sewage treatment. 2. Describe the importance of microbes in energy generation and as biocontrol agents and biofertilizers.	1.Welfare of the mankind 2.Social responsibility and social equality
		3 rd week	6 PERIODS	Chapter-11: Biotechnology - Principles and processes, Genetic engineering and recombinant DNA technology	15. Models specimen showing symbolic association in root nodules of leguminous plants, cuscuta on host, lichens.	1.Describe the principles and processes of genetic engineering and r-DNA technology	3.Using technology to lead a happy, peaceful and healthy life.
		4 th week	6 PERIODS	Chapter-12:Biotechnology and its Application – Application of biotechnology in health and agriculture, Human insulin and vaccine production, stem cell technology, gene therapy,	16. Flash cards models showing examples of homologous and analogous organs.	1.Explain the application of biotechnology in health and agriculture 2.Explain the mechanism of production of human insulin and vaccines.	1.Scientific temper 2. Curiosity 3. Coordination for a common cause.

						3.Explain the mechanism of stem cell technology and gene therapy.	
SEPTEMBER	21	1 st week	6 PERIODS	Chapter-12: Biotechnology and its Application continued-- Genetically modified organisms, Bt crops,	REVISION OF PRACTICALS +VIVA VOCE PRACTICE	4.Describe the production of Bt crops and transgenic animals.	1. Developing an aptitude for technology.
		2 nd week	6 PERIODS	transgenic animals, biosafety issues, biopiracy and patents	REVISION OF PRACTICALS +VIVA VOCE PRACTICE	5.Illustrate biosafety issues , biopiracy and patents.	2. Remaining up-to-date with recent technologies.
		3 rd week		Half yearly exam	REVISION OF PRACTICALS +VIVA VOCE PRACTICE	REVISION OF HALF YEARLY EXAM PORTION TO BE DONE.	
		4 th week		Half yearly exam	REVISION OF PRACTICALS +VIVA VOCE PRACTICE		1.use of technology for social welfare of mankind. 2. Scientific temper and curiosity.
OCTOBER	18	1 st week	6 PERIODS	Chapter-13:Organisms and Populations - population interactions mutualism, predation, competition.	REVISION OF PRACTICALS +VIVA VOCE PRACTICE		3. Concern for each and every section of society.
		2 nd week	6 PERIODS	Parasitism; population attributes growth, birth rate ,death rate and age distribution.	REVISION OF PRACTICALS +VIVA VOCE PRACTICE	1.Explain the different types of population interaction. 2.Describe the various population attributes like population growth, birth rate, death rate and age distribution.	1. Respect for social groups and social interactions. 2. Understanding of social attributes.
NOVEMBER	23	1 st week	6 PERIODS	Chapter-14:EcosystemsPatterns , components, productivity and decomposition ,energy flow, Pyramids of number, biomass and energy.	REVISION OF PRACTICALS +VIVA VOCE PRACTICE	1.Analyze the components ,productivity and decomposition patterns of different ecosystems. 2.Explain the structures of pyramids of number , biomass and energy.	1. Respecting mother nature and understanding the interaction of its different components.

		2 nd week	6 PERIODS	Chapter-15:Biodiversity and its Conservation – Biodiversity concept ,patterns , importance , loss of biodiversity, biodiversity conservation	REVISION OF PRACTICALS +VIVA VOCE PRACTICE	1.Explain the concept ,pattern ,importance and loss of biodiversity. 2.Describe the importance of biodiversity conservation.	1. Unity in diversity. 2. Appreciation of diversity. 3. Peace and tranquility for all.
		3 rd week	6 PERIODS	Chapter-15:Biodiversity and its Conservation continued - hotspots, endangered organisms, extinction, red data book, sacred groups, biosphere reserves, national parks, wildlife sanctuaries and Ramsar sites.	REVISION OF PRACTICALS +VIVA VOCE PRACTICE	3.Compare the structure and importance of biosphere reserves, national parks and sanctuaries. 4.Describe endangered organisms and red data book.	4. Conservation of resources
		4 th week	6 PERIODS	1 st pre board exam	-----	-----	-----
DECEMBER	19	1 st week	6 PERIODS	1 st pre board exam	REVISION OF PRACTICALS +VIVA VOCE PRACTICE	1.Describe the effects of air and water pollution on the environment and its control. 2.Describe the mechanism of solid waste management .	1. Understanding social responsibility. 2. Finding solutions of environmental issues.
		2 nd week	6 PERIODS	Chapter-16:Environmental Issues, Air pollution and its control, water pollution and its control, agrochemicals and their effects, solid waste management, radioactive waste management,	REVISION OF PRACTICALS +VIVA VOCE PRACTICE	3.Describe the greenhouse effect and its effect on climate change. 4.Describe the effect of ozone layer depletion and deforestation.	3. Scientific temper 4. Curiosity 5.application of knowledge for welfare of all.
		3 rd week	6 PERIODS	Chapter-16:Environmental Issues, Green house effect and climate change impact and mitigation, ozone layer depletion, deforestation, Any one case study as success story addressing environmental issues	REVISION OF PRACTICALS +VIVA VOCE PRACTICE	-----	1. Understand life in totality.

				Revision of full syllabus +4 th week is Christmas holiday Practice of questions from C.B.S.E sample papers			
JANUARY	22	1 st week	6 PERIODS	2 nd pre board exam	REVISION OF PRACTICALS +VIVA VOCE PRACTICE	1.Improve reading ,writing and analytical skills. 2.Remove learning gaps.	1. Increase knowledge and understanding.
		2 nd week	6 PERIODS	2 nd pre board exam	ANNUAL PRACTICAL EXAM	-----	1. Ability to face life.
		3 rd week	6 PERIODS	Practice of questions from C.B.S.E sample papers	-----	-----	1. Ability to face life
		4 th week	6 PERIODS	Practice of questions from C.B.S.E sample papers	-----	1.Develop a deeper understanding of different topics. 2.Remove learning gaps	1. Increase knowledge understanding and application
FEBRUARY	22	1 st week	6 PERIODS	Practice of questions from C.B.S.E sample papers	-----	1.Improve reading ,writing and analytical skills. 2.Rmove learning gaps.	1.Increase knowledge understanding and application
		2 nd week	6 PERIODS	Practice of questions from C.B.S.E sample papers	-----	1.Develop a deeper understanding of different topics. 2.Remove learning gaps	1. Increase knowledge understanding and application
		3 rd week		Revision + Annual exam	-----	-----	1. Ability to face life.

Subject Teacher

Principal