BLOOM PUBLIC SCHOOL

C-8 Vasant Kunj, New Delhi

Syllabus for the Session 2025-26

Class: XII

Subject: BIOLOGY

SYLLABUS			
MONTH	**CHAPTER (NCERT Text book)**	**CONTENT (Topics)**	**Practical/Activities**
April	Chapter 1: Sexual Reproduction in Flowering Plants. Chapter 3: Reproductive Health	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. 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).	1.Prepare a temporary mount to observe pollen germination 2. Flowers adapted to pollination by different agencies (wind, insects, birds). 3. Pollen germination on stigma through a permanent slide or scanning electron micrograph. 4. Controlled pollination - emasculation, tagging and bagging.
May	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);	5.Identification of stages of gamete development, i.e., T.S. of testis and T.S. of ovary through permanent slides (from grasshopper/mice). 6.Meiosis in onion bud cell or grasshopper testis

		parturition (elementary idea); lactation (elementary idea).	through permanent slides. 7.T.S. of blastula through permanent slides (Mammalian).
	Chapter 4: Principles of Inheritance and Variation	Heredity and variation: 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.	8.Mendelian inheritance using seeds of different colour/sizes of any plant. 9. Prepared pedigree charts of any one of the genetic traits such as rolling of tongue, blood groups, ear lobes, widow's peak and colour blindness.
	Chapter 5: Molecular Basis of Inheritance	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.	
	Chapter 5: Molecular basis of Inheritance (CONT.)	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.	10.Flash cards models showing examples of homologous and analogous organs. 11. Prepare a temporary mount of onion root tip to study mitosis.
July	Chapter-6: Evolution	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..	
	Chapter 7: Human Health & 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.	
August	Chapter 7: Human Health & Diseases (CONT.)	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.	12. Prepare a temporary mount of onion root tip to study mitosis. 13.Isolate DNA from available plant material such as spinach, green pea seeds, papaya, etc.
	Chapter-8: 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.	
	Chapter 9: Biotechnology: Principles & Processes	Genetic Engineering (Recombinant DNA Technology).	
September	Chapter 10: Biotechnology & its Application	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.	14.Models specimen showing symbolic association in root modules of leguminous plants, Cuscuta on host, lichens.
October	Chapter 11: Organisms and Population	Population interactions - mutualism, competition, predation, parasitism; population attributes - growth, birth rate and death rate, age distribution.	15. Study the plant population density by quadrat method. 16. Study the plant population frequency by quadrat method.

	Chapter 12: Ecosystem Chapter 13: Biodiversity & conservation.	Ecosystems: Patterns, components; productivity and decomposition; energy flow; pyramids of number, biomass, energy. 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	PreBoard-1 Exam		
December	PreBoard-2 Exam		
January	Board Practical Examination		
February	CBSE Board Exam As per the Board date sheet		
March	CBSE Board Exam As per the Board date sheet		
ASSESSMENT SYLLABUS			
PERIODIC ASSESSMENT -1		Chapter 1: Sexual Reproduction in Flowering Plants. Chapter 3: Reproductive Health.	
PERIODIC ASSESSMENT -2		Chapter 2: Human Reproduction. Chapter-4: Principles of Inheritance and Variation Chapter-5: Molecular Basis of Inheritance	
MID TERM EXAM		Chapter 1: Sexual Reproduction in Flowering Plants. Chapter 2: Human Reproduction Chapter 3: Reproductive Health. Chapter 4: Principles of Inheritance and Variation Chapter 5: Molecular Basis of Inheritance Chapter-6: Evolution Chapter 7: Human Health & Diseases Chapter 8: Microbes in Human Welfare	

FINAL EXAMINATION	Chapter 1: Sexual Reproduction in Flowering Plants. Chapter 2: Human Reproduction Chapter 3: Reproductive health. Chapter 4: Principles of Inheritance and Variation Chapter 5: Molecular Basis of Inheritance Chapter-6: Evolution Chapter 7: Human Health & Diseases Chapter 8: Microbes in Human Welfare Chapter 9: Biotechnology: Principles & Processes Chapter 10: Biotechnology & its Application Chapter 11: Organisms and Population Chapter 12: Ecosystem Chapter 13: Biodiversity & conservation.	