St. Xaviers School

Syllabus and Lesson Planner

Class	12	Syllabus		
Subject	BIOLOGY			
Tr's Name		Date		

Ch. No.	Name of Chapter	Topic	Month	Week
1	SEXUAL REPRODUCTION IN FLOWERING PLANTS	FLOWER STRUCTURE, DEVELOPMENT OF MALE & FEMALE GAMETOPHYTE, POLLINATION-TYPES, AGENCIES, & EXAMPLES, OUTBREEDING DEVICES, POLLEN-PISTIL INTERACTION, DOUBLE FERTILIZATION, POST FERTILIZATION EVENTS, DEVELOPMENT OF ENDOSPERM & EMBRYO, DEVELOPMENT OF SEED & FORMATION OF FRUIT, APOMIXIS, PARTHENOCARPY, POLYEMBRYONY, SIGNIFICANCE OF SEED DISPERSAL & FRUIT FORMATION	APRIL	2 WEEKS
2	HUMAN REPRODUCTION	MALE & FEMALE REPRODUCTIVE SYSTEMS, ANATOMY OF TESTIS & OVARY, GAMETOGENESIS, MENSTRUAL CYCLE, FERTILIZATION, EMBRYOGENESIS UPTO BLASTOCYCT FORMATION, IMPLANTATION, PREGNANCY, & PLACENTA FORMATION, PARTURITION, LACTATION, HORMONAL CONTROL & IMPORTANCE	MAY & JUNE	4 WEEKS
3	HUMAN HEALTH	NEED FOR REPRODUCTIVE HEALTH & PREVENTION OF STDs-GONORRHOEA, SYPHILIS, GENITAL HERPES, CHLAMYDIASIS, GENITAL WARTS, TRICHOMONIASIS, HEPATITIS-B, AIDS, BIRTH CONTROL-NEED AND METHODS, CONTRACEPTION & MEDICAL TERMINATION OF PREGNANCY, AMNIOCENTESIS, INFERTILITY & ASSISTED REPRODUCTIVE TECHNOLOGIES-IVF, ZIFT, GIFT	JULY	1 WEEKS
4	PRINCIPLES OF INHERITANCE & VARIATION	HEREDITY & VARIATION, MENDELIAN INHERITANCE, DEVIATIONS FROM MENDELISM-INCOMPLETE DOMINANCE, CO DOMINANCE, MULTIPLE ALLELISM, INHERITANCE OF BLOOD GROUP, PLEIOTROPY, POLYGENIC INHERITANCE, CHROMOSOMAL THEORY OF INHERITANCE, CHROMOSOMES & GENES, SEX DETERMINATION-HUMAN, BIRDS, HONEY BEE, LINKAGE, CROSSING OVER, SEX LINKED INHERITANCE-COLOUR BLINDNESS, HAEMOPHILIA, MENDELIAN DISORDERS & CHROMOSOMAL DISORDERS IN HUMANS	JULY	3 WEEKS
5	MOLECULAR BASIS OF INHERITANCE	SEARCH FOR GENETIC MATERIAL,& DNA AS GENETIC MATERIAL, STRUVCTURE OF DNA & RNA, DNA PACKAGING, DNA REPLICATION, CENTRAL DOGMA, TRANSCRIPTION, GENETIC CODE, TRANSLATION, GENE EXPRESSION & REGULATION-LAC OPERON, HUMAN AND RICE GENOME PROJECTS, DNA FINGERPRINTING	AUGUST	4 WEEKS
6	EVOLUTION	ORIGIN OF LIFE, BIOLOGICAL EVOLUTION & EVIDENCES FOR BIOLOGICAL EVOLUTION, DARWIN'S CONTRIBUTION, MODERN SYNTHETIC THEORY OF EVOLUTION, MECHANISM OF EVOLUTION, VARIATION-MUTATION & RECOMBINATION, NATURAL SELECTION, GENE FLOW, GENETIC DRIFT, HARDY WEINBERG'S PRINCIPLE, ADAPTIVE RADIATION, HUMAN EVOLUTION	AUGUST	1 WEEK
7	BIOTECHNOLOGY:PRINCIPLES & PROCESSES	GENETIC ENGINEERING-rDNA TECHNOLOGY, STEPS OF FORMATION OF rDNA, STRUCTURE OF pBR322, PCR TECHNIQUE, BIOREACTOR-SIMPLE STIRRED TANK & SPARGED STIRRED TANK BIOREACTOR, DOWNSTREAM PROCESSING	SEPTEMBER	1 WEEKS
8	BIOTECHNOLOGY & ITS APPLICATION	APPLICATION OF BIOTECHNOLOGY IN HEALTH & AGRICULTURE, HUMAN INSULIN & VACCINE PRODUCTION, STEM CELL TECHNOLOGY, GENE THERAPY, GENETICALLY MODIFIED ORGANISMS, Bt CROPS, TRANSGENIC ANIMALS, BIOSAFETY ISSUES, BIOPIRACY & BIOPATENT, GOLDEN RICE, ELISA, USE OF PROBE	SEPTEMBER	1 WEEKS
	HUMAN HEALTH & DISEASES	PATHOGENS, PARASITES CAUSING HUMAN DISEASES (COMMON COLD, DENGUE, CHIKUNGUNYA, TYPHOID, PNEUMONIA		

9		CHIKUNGUNYA, TYPHOID, PNEUMONIA, AMOEBIASIS, MALARIA, FILARIASIS, ASCARIASIS, RING WORM) & THEIR CONTROL, BASIC CONCEPTS OF IMMUNOLOGY-VACCINES, CANCER, HIV, AIDS, ADOLESCENCE-DRUG & ALCOHOL ABUSE, STRUCTURE OF ANTIBODY MOLECULE, TYPES OF ANTIBODY	OCTOBER	2 WEEK
10	MICROBES IN HUMAN WELFARE	IN HOUSEHOLD FOOD PROCESSING, INDUSTRIAL PRODUCTION, SEWAGE TREATMENT, ENERGY GENERATION AND MICROBES AS BIOCONTROL AGENTS AND BIOFERTILIZERS, ANTIBIOTICS, IPM, BIOGAS PRODUCTION	OCTOBER	1 WEEKS
11	ORGANISMS & POPULATION	POPULATION INTERACTION-MUTUALISM, COMPETITION, PREDATION, PARASITISM, POPULATION ATTRIBUTES-BIRTH RATE AND DEATH RATE, AGE DISTRIBUTION	NOVEMBER	1 WEEK
12	ECOSYSTEM	ECOSYSTEM PATTERN, COMPONENTS, PRODUCTIVITY AND DECOMPOSITION, ENERGY FLOW, PYRAMIDS OF NUMBER, BIOMASS ENERGY, ECOLOGICAL PYRAMID-ENERGY & BIOMASS, PAR, 10% LAW, STANDING CROP & STANDING STATE	NOVEMBER	1 WEEKS
13	BIODIVERSITY & ITS CONSERVATION	CONCEPT OF BIODIVERSITY, PATTERNS OF BIODIVERSITY, IMPORTANCE OF BIODIVERSITY, BIODIVERSITY CONSERVATION, HOTSPOTS, ENDANGERED ORGANISMS, EXTINCTION, RED DATA BOOK, BIOSPHERE RESEVES, NATIONAL PARKS, SANTURIES, & RAMSAR SITES, SPECIES AREA RELATIONSHIP-GRAPH AND EQUATION, RIVET POPPER HYPOTHESIS, IN SITU & EX SITU CONSERVATION, SACRED GROOVES	NOVEMBER	1 WEEK