BIOLOGY
CLASS XII

TEXTBOOKS:
1.Biology by NCERT

EXAMINATION	UNIT/ CHAPTER / TOPIC	SUBTOPICS	WEIGHTAGE (MARKS)
HALF YEARLY			
	Unit-VI Reproduction Chapter-2: Sexual Reproduction in Flowering Plants formation. Chapter-3: Human Reproduction Chapter-4: 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 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). 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	25

		awareness).	
	Unit-VII Genetics and Evolution Chapter-5: Principles of Inheritance and Variation Chapter-6: Molecular Basis of Inheritance Chapter-7: Evolution	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. Search for genetic material anNA and RNA; DNA packaging; DNA replication; Ced DNA as genetic material; Structure of Central Dogma; transcription, genetic code, translation; gene expression and regulation - lac operon; Genome, Human and rice genome projects; DNA fingerprinting. Origin of life biological evolution and e biological evolution (paleontology, con anatomy, embryology and molecular e Darwin's contribution, modern syntheti evolution; mechanism of evolution - va (mutation and recombination) and natu with examples, types of natural selecti flow and genetic drift;; Hardy- Weinbe adaptive radiation; human evolution.	30

	Unit-IX Biotechnology and its Applications Chapter-11: Biotechnology - Principles and Processes . Chapter-12: Biotechnology and its Applications	Genetic Engineering (Recombinant DNA Technology) 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.	15
TOTAL MARKS			**70**
EXAMINATION	UNIT/ CHAPTER / TOPIC	SUBTOPICS	WEIGHTAGE (MARKS)
ANNUAL			
	UNIT VI	**Reproduction**	16
	UNIT VII	**Genetics and Evolution**	20
	UNIT IX	**Biotechnology**	12
	Unit-VIII: Biology and Human Welfare Chapter-8: Human Health and Diseases Chapter-10: Microbes in Human Welfare	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. Microbes in food processing, industrial production, sewage treatment, energy generation and microbes as bio-control agents and bio-fertilizers. Antibiotics; production	12

		and judicioususe.	
	Unit-X Ecology and Environment Chapter-13: Organisms and Populations Chapter-14: Ecosystem Chapter-15: Biodiversity and its Conservation	Population interactions - mutualism, competition, predation, parasitism; population attributes - growth, birth rate and death rate, age distribution. (Topics excluded: Organism and its Environment, Major Aboitic Factors, Responses to Abioitic Factors, Adaptations) Ecosystems: Patterns, components; productivity and decomposition; energy flow; pyramids of number, biomass, energy (Topics excluded: Ecological Succession and Nutrient Cycles). 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.	10
TOTAL MARKS			**70**