

ARMY GOODWILL PUBLIC SCHOOL RAJOURI
(TRUTH IS GOD)
SPLIT-UP SYLLABUS(BIOLOGY) SESSION: 2021-22

S.NO	MONTH & ASSESSMENT	UNIT	DETAILS	NO OF PERIODS ALLOTTE D	PRACTICAL S
1	APRIL	UNIT-I	REPRODUCTION	30	2 experiments 1 major and 1 minor
			Chapter–1: Reproduction in Organisms Reproduction, a characteristic feature of all organisms for continuation of species; modes of reproduction - asexual and sexual reproduction; asexual reproduction - binary fission, sporulation, budding, gemmule formation, fragmentation; vegetative propagation in plants.		
2	APRIL		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, parthenocarpy, polyembryony; Significance of seed dispersal and fruit formation.		

3	MAY	UNIT-II	<p>Chapter-3: 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)</p>	40	3 experiments 2 minor and 1 major
4	JUNE (UNIT TEST -I) SYLLABUS CH 1,2,3		<p>Chapter-4: 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).</p>		
			<p>Unit-VII Genetics and Evolution</p> <p>Chapter-5: 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.</p>		3 Experiments 1 major and 2 spottings

			<p>Chapter-6: Molecular Basis of Inheritance</p> <p>Search for genetic material and DNA as genetic material; Structure of DNA and UNITRNA; DNA packaging; DNA replication; Central dogma; transcription, genetic code, translation; gene expression and regulation - lac operon; genome and human and rice genome projects; DNA fingerprinting. Chapter-7: 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.</p>		
<p>REVISION FOR UNIT -TEST –I</p> <p>SYLLABUS CH 1,2,3,4</p>					
<p>5</p>	<p>JULY/ AUGUST</p>	<p>Unit – III</p>	<p>Biology and Human Welfare</p> <p>Chapter-8 Human Health and Diseases parasites causing human diseases (malaria, dengue, chickengunia, 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.</p> <p>Chapter-9: Strategies for Enhancement in Food Production Improvement in food production: Plant breeding, tissue culture, single cellprotein,Biofortification, Apiculture and Animal husbandry.</p> <p>Chapter-10: Microbes in Human WelfareIn household food processing, industrial production, sewage treatment, energy generation and microbes as biocontrol agents and biofertilizers. Antibiotics; production and judicious use.</p>	<p>30</p>	<p>2 major Experiments and projectwork</p>

CLASS: XII

			Unit-IX Biotechnology and Its Applications 30 Periods		
			Chapter-11: Biotechnology - Principles and processes Genetic Engineering (Recombinant DNA Technology). Chapter-12: Biotechnology and 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, bio piracy and patents.		

		<p>Unit - V</p>	<p>Unit-X Ecology and Environment</p> <p>Chapter-13: Organisms and Populations Organisms and environment: Habitat and niche, population and ecological adaptations; population interactions - mutualism, competition, predation, parasitism; population attributes - growth, birth rate and death rate, age distribution.</p> <p>Chapter-14: Ecosystem Ecosystems: Patterns, components; productivity and decomposition; energy flow; pyramids of number, biomass, energy; nutrient cycles (carbon and phosphorous); ecological succession; ecological services -carbon fixation, pollination, seed dispersal, oxygen release (in briSelf and mutual induction.</p>	<p>30</p>	
			<p>Chapter-15: Biodiversity and its Conservation</p> <p>Biodiversity-Concept, patterns, importance; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, biosphere reserves, national parks, sanctuaries and Ramsar sites.</p>		

CLASS: XII

			Chapter-16: Environmental Issues Air pollution and its control; water pollution and its control; agrochemicals and their effects; solid waste management; radioactive waste management; greenhouse effect and climate change impact and mitigation; ozone layer depletion; deforestation; any one case study as success story addressing Environmental issues.		
6	AUG. (HALF YEARLY) SYLLABUS CH 1-8 AND FIRST FIVE PRACTICALS				
			REVISION FOR-HALF YEARLY-ASSESSMENT SYLLABUS CH 1-8 AND FIRST FIVE PRACTICALS		

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