

D.A.V. Public School
Sector – 3 Dhurwa Ranchi – 4

Biology Syllabus(2019-20)

Class -XII

Prescribed Books:

➤ **N.C.E.R.T Science.**

| Month | No of working day | Chapters | Subject/Topic | Exam/Text portion |
|--------------|--------------------------|--|---|--------------------------|
| April | 20 | <p>Unit-6 Reproduction. Chapter-1 Reproduction in organisms.</p> <p>Chapter-2 Sexual reproduction in flowering plants.</p> <p>Chapter-3 Human reproduction.</p> | <p>*Reproduction,A characteristic feature of all organism for continuation of species,modes of reproduction,asexual and sexual reproduction,binary fission,sporulation,budding,gemmule formation,fragmentation,vegetative propagation in plants.</p> <p>*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-apoxis,parthenocarpy, polyembryony, significance of seed dispersal and fruit formation.</p> <p>*Male and female reproductive system, microscopic anatomy of testis and ovary, gametogenesis – spermatogenesis and oogenesis, menstrual cycle,fertilisation, embryo development upto blastocyst formation, implanation, pregnancy and placenta formation, parturition, lactation.</p> | |
| May | 10 | Chapter-4 Reproductive | | |

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| | | 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) | |
| June | 20 | Unit-VII Genetics and Evolution . 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 linked inheritance-haemophilia , colour blindness , mendelian disorders in humans – thalassemia , chromosomal disorder in humans , downs syndrome , turners and klinefelters syndromes. | |
| July | 20 | Chapter-6 Molecular basis of inheritance. Chapter-7 Evolution. | *Search for genetic material and DNA as genetic material , structure of DNA , RNA , packaging , DNA replication , central dogma , transcription, genetic code , translation , gene expression and regulation, lac operon, genome and human rice genome projects , DNA finger printing. *Origin of life , biological evolution and evidences for biological evolution (paleontology , comparative anatomy , embryology and molecular evidences , darwins contribution , modern synthetic theory of evolution , mechanism of evolution- variation (mutation and recombination) and natural selection with examples and types, gene flow and genetic drift , hardy-weinbergs principle , adaptive | |

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| | | | radiation , human evolution. | |
| August | 30 | <p>Unit-VIII Biology and human welfare Chapter-8 human health and diseases.</p> <p>Chapter-9 Strategies for enhancement in food production.</p> <p>Chapter-10 Microbes in human welfare.</p> | <p>*Pathogens,parasites causing human diseases(malaria, danguue, chickengunia, filariasis, ascariasis, typhoid, pneumonia,,common cold,amoebiasis,ring worm and their control, basic concept of immunology-vaccines, cancer,HIV and AIDS, Adolescence-drug and alcohol abuse</p> <p>*Improvement in food production,plant breeding,tissue culture,single cell protein, biofortification,apiculture and animal husbandry.</p> <p>*In household food processing,industrial production,sewage treatment,energy generation and microbes as bio-cultuntrol agents and bio-fertilizers,antibiotics,production and judicious use.</p> | Half Yearly Exam 2019 |
| September | 30 | <p>Unit-9 Biotechnology and its applications. Chapter-11 Biotechnology-principles and processes.</p> <p>Chapter-12 Biotechnology and its application.</p> | <p>* Genetic engineering(recombinant DNA technology).</p> <p>*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> | |
| October | 20 | <p>Unit-X Ecology and environment. Chapter-13 Organisms and populations.</p> | <p>*Organism and environment , habitat and niche , population and ecological adaptation , population interactions- mutualism , competition , predation , parasitism , population attributes growth- birth</p> | |

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| | | Chapter-14 Ecosystem. | rate and death rate, age distribution. *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 brief). | |
| November | 30 | Chapter-15 Biodiversity and its conservation. Chapter-16 Environmental issues. | *Biodiversity – concept, patterns, importance, loss of biodiversity, biodiversity conservation, hotspots, endangered organisms, extinction, red data book, biosphere reserves, national parks, sanctuaries and ramsar sites. *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 issue (s). | Revision- December 1st pre board Revision – January- 2nd pre board |