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| ST. JAGAT GYAN SENIOR SECONDARY PUBLIC SCHOOL  AFFILIATED TO CBSE (NEW DELHI ) UPTO 10 + 2  PISKA NAGRI, RANCHI (JHARKHAND)  CLASS 12 BIOLOGY SYLLABUS | | | | | | | | | | | |
| Month | Chapter | Periods | Activity Topics | | P.T.  (M.T) | C.W./H.W., N.B. | | Subject Enrichment | Term1 | Term2 | Term 3 |
| April | Chapter 01 Sexual reproduction in flowering plants | 10 | 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- opomixis, parthenocarpy, polyembryony, significance of seed dispersal and fruit formation. | |  | Oral question based on solution MCQ | | Activity : Make assignment on sexual reproduction in plant. | 6 | 6 | 6 |
| Practical 01 | 2 | Prepare a temporary mount to observe Pollen germination. | |  |  | |  |  |  |  |
| Chapter 02 Human reproduction | 10 | Male and female reproductive systems, microscopic anatomy of testis and ovary, Gametogenesis -spermatogenesis and oogenesis, Menstrual cycle, fertilization, embryo development upto blastocyst formation, implantation , pregnancy and placenta formation (elementary idea), parturition ( elementary ideas), location ( elementary idea ). | |  | Neat and clean work and draw well level diagram. | | Activity : Make a assignment on fertilisation and implantation topic. | 6 | 6 | 6 |
| Practical - 0 2 | 2 | Study the plant population density by quardrat method. | |  |  | |  |  |  |  |
| May | Chapter - 03  Reproductive health | 12 | Need for reproductive health and prevention of sexually transmitted diseases (SIDs) , 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). | |  | Neat and clean work.  Homework and class work complete. | | Activity : Draw structure or paste the picture of assisted productive technology on chart paper | 4 | 4 | 4 |
| Practical 03 | 3 | Prepare temporary mount of onion root tips to study mitasis | |  |  | |  |  |  |  |
| June | Chapter 04 principles of inheritance and variation | 7 | Heredity and variation - Mendelian inheritance, deviation from Mendelism- incomplete dominance , co-dominance, multiples alleles and inheritance of blood groups, pleiotropy, elementary idea of polygenic inheritance, chromosomes theory of inheritance , chromosomes and genes, sex determination in - humans, birds and honey bee, linkage and crossing over , sex link inheritance- haemophilia, color blindness , Mendelian disorders in humans - thalassemia, chromosomal disorder in humans, Down's syndrome, Turner's and Klinefelter's syndrome. | |  | Oral test best on solution MCQ  Complete all c.w., h.w. and notes on copy | | Activity: Mendelian inheritance using seeds of different colour size of any plant. | 7 | 7 | 7 |
| Practical 04 | 1 | Study the plant population frequency by quadrant method. | |  |  | |  |  |  |  |
| Chapter 05  Molecular basis of inheritance | 6 | 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 | |  | Oral and lab activity .  Work related to DNA isolation . | | Activity : Draw the structure of DNA and RNA that shows difference between them. | 7 | 7 | 7 |
| Practical 05 | 1 | Isolate DNA from available plant material such as a spinach, green pea seeds , papaya etc. | |  |  | |  |  |  |  |
| July | Chapter 06 Evolution | 8 | 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 ( nutrition and recombination) and natural selection with examples, types of natural selection, Gene flow and genetic drift, Hardy- Weinberg's principle, adaptive radiation, human evolution. | | 29.07.24 | Oral test and draw all diagrams and do neet and clean work | | Activity : make a assignment on human evolution | 6 | 6 | 6 |
|  | Practical 06 | 2 | Pollen germination on stigma through a permanent slide. | |  |  | |  |  |  |  |
|  | Chapter 07  Human health and diseases | 7 | Pathogens , parasites causing human diseases ( malaria, dengue , chikungunya , Filariasis, common cold , amoebiasis, ringworm) and their control, basic concepts of immunology- vaccines , Cancer, HIV and AIDS, adolescences - drugs and alcohol abuse. | |  | Oral test and lab activities work related to common diseases causing organism | | Activity : Make assignment on human diseases | 7 | 7 | 7 |
|  | Practical 07 | 2 | Common disease causing organism like Ascaris, Entamoeba, plasmodium, any fungus causing ringworm through permanent slides ,l models or virtual images or specimens. Comment on symptoms of diseases that they cause. | |  |  | |  |  |  |  |
|  | Chapter 08  Microbes in human welfare | 7 | Microbes in food processing , industrial production , Sewage treatment, energy generation and microbes as bio - control agents and bio fertilizer, antibiotics production and judicious use. | |  | Oral test and neat and clean work | | Activity : Collect data that shows how microbes useful in industrial production. | 5 | 5 | 5 |
| August |  |  | Revision | |  |  | |  |  |  |  |
| September |  |  | Term 1 Exam  Ch – 1,2,3,4,5,6,7,8 | |  |  | |  |  |  |  |
| October | Chapter 9 Biotechnology principle and process | 5 | Genetic engineering ( recombinant DNA technology) | |  | Oral test and complete homework and class work | | Activity : Make a assignment on genetically modified organism. | 6 | 6 | 6 |
| Chapter 10  Biotechnology and its applications | 9 | Application of biotechnology in health and agriculture : human insulin and vaccine production, stem cell technology, gene therapy , genetically modified organisms - BT crops, transgenic animals, bio safety issues, bio piracy and patents. | |  | Neat and clean work | | Activity collect the data of human diseases whose treatment is vaccination. | 6 | 6 | 6 |
| Chapter 11 Organisms and population | 8 | Population interaction - mutualism competition , predation, parasitism; population attributes - growth, birth rate and death rate, age distribution . (Topics excluded : organism and its environment, major abiotic factors, responses to a biotic factors, adaptations) | |  | Oral test and activity work related to data collection | | Activity : Collect the data on growth , birth rate and death rate and age distribution. | 3 | 3 | 3 |
| Practical 08 | 2 | Identification of stages of gamete development I.e. TS of testis and TS of ovary through permanent slide (from grasshopper / mice) | |  |  | |  |  |  |  |
| November | Chapter 12 Ecosystems | 9 | Ecosystems : Patterns, components, productivity and decomposition, energy flow , pyramids of number , biomass , energy (topics excluded ecological succession and nutrient cycles) | |  | Oral and activity work related to ecosystems. | | Activity : Draw the picture of energy flow on chart. | 3 | 3 | 3 |
| Chapter 13 Biodiversity and its concepts | 10 | Biodiversity - concept , patterns, importance, loss of biodiversity , biodiversity conservation, hotspots, endangered organisms, extinctions, Red data book , saweed groves, biosphere reserves, national parks, wildlife, sanctuaries and ramsar sites. | |  | Oral and lab activity related to TS of blastula and meiosis in onion bud cell | | Activity : Make assignment on biodiversity conservation. | 3 | 3 | 3 |
| Practical 09 | 2 | T S. of blastula through permanent slides ( Mammalian). | |  |  | |  |  |  |  |
| Practical 10 | 2 | Meiosis in onion bud cell or grasshopper testis through permanent slides | |  |  | |  |  |  |  |
| December |  |  | Pre – Board exam and Revision | |  |  | |  |  |  |  |
| January |  |  | Mock Test | |  |  | |  |  |  |  |
| February |  |  | Mock Test, Revision | |  |  | |  |  |  |  |
| March |  |  | Board Exam | |  |  | |  |  |  |  |
| Monday test :  13/05/24 Ch – 1,2  29/07/24 Ch – 3,4,5  14/10/24 Ch – 6,7,8 | | | | Unit Test :  U.T. 01 – CH – 1,2  U.T. 02 – CH – 3,4,5  U.T. 03 CH – 9,10  U.T. 04 CH – 11,12 | | | Terminal Exam :  1St Term – CH – 1,2,3,4,5,6,7,8  Pre – Board / Mid Term –  CH – (All Chapters 1 to 13 ) | | | | |