BHARTIYA VIDYA MANDIR SENIOR SECONDARY SCHOOL
SECTOR-39, CHANDIGARH ROAD, LUDHIANA
SYLLABUS OF CLASS X

BOOK: NCERT **SUBJECT : SCIENCE** **SESSION : 2024-25**

BIOLOGY					
Month	**Unit/Chapter/Topic**	**Learning Objectives**	**Resources/Art-integarted pedagogy tools used**	**E-Resources**	**Learning Outcomes/ Skills learnt by students**
APRIL	**CH-5 LIFE PROCESSES SUBTOPIC-NUTRITION**	Students will be able to: *learn and understand about different modes of nutrition and differentiate between autotropic and heterotropic nutrition. *understand that autotrophic nutrition involves the intake of simple inorganic material inorganic materials from the environment and byusing an external energy source likesun to synthesize complex high energy organic material. * comprehend that the heterotrophic nutrition involves the intake of complex material prepared by other organisms. * understand and summarize the various steps of digestion in human beings in the alimentary canal and the mode of absorption in the small intestine.	TOOLS: Lecture method, brainstorming, Chalk and board, Questioning. ACTIVITY- To prove that chlorophyll,CO2, light is essential for photosynthesis. Students will observe the activity carefully and note down all the components required in photosynthesis. Following activity will be conducted in lab were students will prepare temporary mount of a leaf peel to show stomata. They will observe the slide and identify the stomata andwill draw a well labelled diagram as stomata helps in the exchange of gases.	https://www.youtube.com/watch?v=qSIM_xmI4tE	1.Students understood different modes of nutrition involved in life process. 2. They were able to analyze that duration for digestion of fats is more than protein and carbohydrates. 3. They were able to evaluate the importance of enzymes and gastric juices in the process of digestion. 4. They were able to recognize that problem of acidity or ulcer or any other disorder is due to improper function of different organs ofdigestive system. 5. They were able to synthesized the importance of light, water and CO2 for the light and dark reaction of photosynthesis along with the role of stomata. SKILLS: *Scientific attitude and temper *Observation *Analysis *Conclusion
MAY	**CH-5 LIFE PROCESSES SUBTOPIC-RESPIRATION, TRANSPORTATION AND EXCRETION**	Students will be able to: *Learn and understand the concept of respiration and can compare between aerobic and anaerobic respiration. * Comprehend and relate how in cellular respiration, complex organic compounds such as glucose are broken down to provide energy in n the form of ATP which is used to provide energy for other reactions in the cell. *Infer the mechanism of circulatory system where materials such as oxygen,carbon-dioxide,food and excretory products are transported. *Explore their critical thinking by studying the importance of transport of water, minerals, food and other materials in highly differentiated plants * Enhance theability to understand the mechanism of excretion.	TOOLS: Lecture method, brainstorming, Chalk and board, Questioning. ACTIVITY : 1.An activity will be conducted in a lab. were student will be given opportunity to do and observe themselves that CO2 is given out during the process of breathing. 2 . Model of heart and excretory system shown to students.	https://www.youtube.com/watch?v=rBtmrcyi2G0	1. Students understood the importance of different life process and were able to understood mechanism of circulatory system where materials such as oxygen, carbon-dioxide, food and excretory products are transported 2. They were able to analyze that cramps in muscle as well as bakery products, south Indian dishes and production of alcohol is due to anaerobic respiration. 3. They were able to analyze the importance of valve in veins and heart and will also able to evaluate the reason behind cardiovascular diseases and BP. 4. They were able to analyze the importance of blood group. 5. They were able to recognize that problem in improper functioning of kidney or nephron leads to accumulation of toxic substances in the blood which are fatal. 5. They were able to synthesize the importance of dialysis, heartsurgery, pace-maker for vital functions. SKILLS: *Scientific attitude and temper *Observation *Analysis *Conclusion
JUNE	**SUMMER VACATIONS**				

JULY	**CH-6 CONTROL AND COORDINATION**	Students will be able to: *Describe the structure and types of neurons. *Explain Reflex action, Involuntary and Voluntary actions. *Describe the Central Nervous system- Structure of Brain and its function *To understand the role of Plant hormones. *Understand the role of Human hormones and their secretions. *Comprehend that control and coordination in human beings is the sum of nervous system and endocrine system.	TOOLS- Lecture method ,brain storming,chalk and board, Questioning. ACTIVITY-The students will be asked to make the diagram of brain and label its various parts & relate with different the physiological activity controlled by it.	https://youtu.be/jr8O81JY21Q?si=bFV5vTNVvo7-gghE	Students have learnt about : *the structure of brain *concept of reflex action, voluntary and involuntary actions and they could apply the concept in real life situation. * the role of different hormones and its secretion in the life span of the organism. * various plant movements with phytohormones. SKILLS: *Observation *Conclusion * Drawing and labelling
AUGUST	**CH-7 HOW DO ORGANISMS REPRODUCE?**	Students will be able to: *learn and understand the concept DNA its structure, DNA copying and its importance. *analyze and relate the concept of DNA copying with variation. *acquire knowledge about different modes of reproduction and apply the concept in different living organisms. *comprehend the mechanism of sexual reproduction in flowering plants and human beings. *analyze and think critically about the changes in the human body at puberty.	TOOLS - lecture method ,brain storming,chalk and board, Questioning. ACTIVITY- *To study the binary fission and budding in Amoeba and yeast through permanent slides. *To study the Ovules inside the T.S section of ovary of hibiscus flower	https://youtu.be/DdO7dpkN4hs?si=cB7sD-bkc9AukVqo	Students have learnt about : *the concept of DNA its structure, DNA copying and its importance. * significance of bright colour of flower for pollination. *importance of reproductive health, their problems and strategies * congenital anomalies due to genetic and environmental factors. *importance and male and female sex ratio and the fact that sex determination of child is male heterogamy. SKILLS: *Observation *Conclusion * Drawing and labelling
SEPTEMBER	**TERM -1 EXAMINATION**				
OCTOBER	**CH-8 HEREDITY AND EVOLUTION**	Students will be able to: *Understand that living beings produce offspring of same kind but they vary amongst themselves and are not identical to parents. *Understand laws of inheritance *Make proper monohybrid and dihybrid crosses. *Explain the dominant and recessive character of alleles. *Know the sex of offspring (humans) is determined.	TOOLS - lecture method ,brain storming,chalk and board, Inquiry based learning.	https://youtu.be/YVHDgyhS9pA?si=XEYDDpLE_ZLpCyqm	Students have learnt about: *the genetic basis of variation *the rules of inheritance and phenotypic and genotypic expression of traits. *the concept of gender determination in humans. SKILLS: *Analytical skills * Problem solving *Critical thinking
NOVEMBER	**CH-13 OUR ENVIRONMENT**	Students will be able to : *understand about the various abiotic and biotic factors that interact in the environment. *learn about various food chains and web in ecosystems. *analyze the impact of human in the deterioration ofenvironment. *interpret the cause of global warming and depletion of ozone layer. *learn about how to use and manage biodegradable substances. *analyze the three concepts of 'R'. *enlist the methods to manage the garbage.	TOOLS -Lecture method, brainstorming, Chalk and board, Questioning. ACTIVITY-The students will be asked to calculate the total amount of waste generated at home per day. They will be segregating them into biodegradable and non biodegradable waste.	https://www.youtube.com/live/xErBe4BQbKo?si=J895L0IJbeyVA9qQ	Students have learnt about : *the various abiotic and biotic factors that interacted in the environment. *the concept that tertiary consumers require more energy according to 10% law and therefore depends on multiple food options.Students are able to share their opinion on cause of global warming and depletion of ozone layer. *increase in size of ozone hole due to human activities. SKILLS: *Critical thinking *Interpretation
DECEMBER	**REVISION**				