Vidya Pratishthan's
Dr. Cyrus Poonawalla School (CBSE)

Sub - Biology **Annual Planning 2024-25** **Std - XII**

Sr. No	Month	Topic	Period	Learning Objectives	Learning outcomes	Assessment	Activity
1.	**April**	- Sexual Reproduction in Flowering Plants	10	-Study the reproductive structures and processes in flowering plants. - Understand the mechanism of pollination and fertilization.	-. Students can identify and label reproductive structures in flowering plants. - Students can explain the processes of pollination and fertilization in detail.	- Practical based on flower dissection. - Written test on pollination and fertilization.	- Dissection of flowers for practical understanding. - Field trip to observe different modes of pollination in plants.
		- Human Reproduction	08	- Study the human reproductive system and its functions. - Understand the process of gametogenesis and fertilization in humans.	-Students can describe the anatomy and functions of the human reproductive system. -Students can explain the steps involved in gametogenesis and fertilization.	- Quiz on the human reproductive system. - Group project on reproductive health issues.	- Diagram-based assignments on the human reproductive system. - Guest lecture from a medical professional on reproductive health.
2.	**June**	Reproductive Health	08	- Learn about reproductive health issues and their management. - Understand the importance of family planning.	-Students can identify common reproductive health issues and suggest preventive measures. -Students can discuss and evaluate different family planning methods.	- Debate on the ethical aspects of reproductive health. - Written test on family planning methods.	- Role-play scenarios related to family planning counseling. - Case studies on reproductive health problems.
		- Sexual Reproduction in Flowering Plants	10	-Study the reproductive structures and processes in flowering plants. - Understand the mechanism of pollination and fertilization.	-. Students can identify and label reproductive structures in flowering plants. - Students can explain the processes of pollination and fertilization in detail.	- Practical based on flower dissection. - Written test on pollination and fertilization.	- Dissection of flowers for practical understanding. - Field trip to observe different modes of pollination in plants.

3.	**July**	Principles of Inheritance and Variation	10	- Understand Mendelian genetics and deviations. - Study the inheritance of traits and variations.	1. Students can solve problems related to Mendelian genetics and deviations. 2. Students can analyze and predict the inheritance of traits in different scenarios.	- Problem-solving assignments on Mendelian genetics. - Test on genetic disorders and variations.	- Punnett square exercises for practical application. - Class discussions on genetic disorders.
		Biotechnology - Principles and Processes	10	- Understand the principles of biotechnology. - Study the techniques used in genetic engineering.	1. Students can describe the fundamental principles of biotechnology. 2. Students can explain the techniques involved in genetic engineering.	- Written test on the principles of biotechnology.	- Hands-on experience with DNA extraction and amplification. - Debate on the ethical aspects of genetic engineering.
4.	**August**	- Molecular Basis of Inheritance	10	- Learn about the structure and functions of DNA and RNA. - Understand the process of replication, transcription, and translation.	1. Students can explain the structure of DNA and RNA and their roles in cellular processes. 2. Students can describe the steps involved in DNA replication, transcription, and translation.	- Practical DNA. - Written test on molecular processes.	- DNA model building and replication simulation. - Analysis of genetic code and its significance.
		Biotechnology and Its Applications	10	- Explore the applications of biotechnology in various fields. - Understand the ethical and societal implications of biotechnology.	1. Students can discuss and analyze real-world applications of biotechnology. 2. Students can evaluate the ethical and societal implications of biotechnological advancements.	- Presentation assessment for group projects. - Test on the applications of biotechnology.	- Case studies on real-world applications of biotechnology. - Group projects on the ethical considerations in biotechnology.
5.	**September**	Evolution	10	- Understand the concept of evolution and its mechanisms.	1. Students can explain the various mechanisms of evolution and provide examples. 2. Students can analyze and interpret different types of	- Written test on the mechanisms of evolution.	- Group projects on evidences of evolution. - Class debates on evolutionary theories.

				- Study the evidences supporting the theory of evolution.	evidence supporting the theory of evolution.	- Presentation assessment for group projects.	
		Ecosystem	08	- Understand the concept and components of an ecosystem. - Study the structure and function of different ecosystems.	1. Students can define and identify the components of an ecosystem. 2. Students can analyze the interrelationships and functions of different ecosystems.	- Practical on identifying ecosystem components. - Written test on the structure and function of ecosystems.	- Observe a local ecosystem. - Group projects on analyzing ecosystem components.
6.	**October**	Human Health and Disease	08	- Learn about common diseases and their causative agents. - Understand the principles of immunology.	1. Students can identify and categorize common diseases and their causative agents. 2. Students can explain the basic principles of immunology and its significance in disease prevention.	- Practical on pathogen identification. - Test on principles of immunology.	- Microscope-based identification of pathogens. - Simulated experiments on the immune response.
		Biodiversity and its Conservation	08	- Explore the concept of biodiversity and its importance. - Understand the threats to biodiversity and conservation measures.	1. Students can explain the importance of biodiversity for ecological balance. 2. Students can propose and evaluate conservation measures for preserving biodiversity.	- Project on local biodiversity assessment. - Debate on conservation policies and their effectiveness.	- Case studies on the impact of human activities on biodiversity. - Class discussions on conservation strategies.
7.	**November**	Microbes in Human Welfare	06	- Learn about the beneficial and harmful roles of microbes. - Understand the applications of microbes in various industries	1. Students can categorize microbes based on their roles in human welfare. 2. Students can discuss and analyze the applications of microbes in different industries.	- Written test on industrial applications of microbes.	- Microbiology laboratory experiments. - Group discussions on the role of microbes in waste management.
8.	**December**	Revision and Prebroad.					

9.	**January**	
10	**February**	