CAMBRIAN PUBLIC SCHOOL KANKE ROAD RANCHI

Class – XII (Session 2026-27)

LEARNING PLAN OUTCOMES

Subject: Biology (044)

S. No.	Month	Chapter/Unit Name	Learning Outcomes
1	April	**Bridge Course** 1. Cell structure and cell organelles revision with labelled diagrams. 2. Biomolecules and enzymes – basic practical activities. 3. Cell cycle and cell division (Mitosis & Meiosis) with diagrams. 4. Plant tissues and animal tissues identification practicals. 5. Photosynthesis and respiration concepts through experiments. 6. Human digestive, respiratory and circulatory systems diagrams. 7. Plant growth and development – observation-based activities. 8. Genetics basics: DNA, genes and inheritance concepts. 9. Microscope handling and preparation of temporary slides. 10. Record writing, biological drawings and diagram-labelling practice	1. Identify major cell organelles and explain their functions. 2. Draw and label important biological diagrams accurately. 3. Differentiate between mitosis and meiosis. 4. Explain the role of biomolecules in living organisms. 5. Perform simple biology practicals safely and correctly. 6. Identify plant and animal tissues under a microscope. 7. Describe photosynthesis and respiration processes. 8. Explain the structure and functions of major body systems. 9. Apply basic genetics concepts to inheritance problems. 10. Develop observation, recording and scientific drawing skills.
2	May	**Chapter 1: Sexual Reproduction in Flowering Plants** **Chapter 2: Human Reproduction** **Chapter 3: Reproductive Health**	**Chapter 1: Sexual Reproduction in Flowering Plants** 1. Students will identify parts of a flower involved in reproduction. 2. Students will explain pollination and fertilization in flowering plants. 3. Students will describe double fertilization process. 4. Students will explain seed and fruit formation. 5. Students will analyze the significance of pollination **Chapter 2: Human Reproduction** 1. Students will describe male and female reproductive systems. 2. Students will explain gametogenesis in humans. 3. Students will describe menstrual cycle and hormonal control. 4. Students will explain fertilization, implantation and pregnancy. 5. Students will understand reproductive health and childbirth processes.

			Chapter 3: Reproductive Health 1. Students will explain the concept of reproductive health. 2. Students will identify methods of contraception. 3. Students will describe sexually transmitted infections (STIs). 4. Students will explain the importance of family planning. 5. Students will analyze social issues related to reproductive health.
3	**June**	**Chapter 4: Principles of Inheritance and Variation** **Chapter 5: Molecular Basis of Inheritance**	**Chapter 5: Principles of Inheritance and Variation** 1. Students will explain Mendel's laws of inheritance. 2. Students will solve genetic cross problems. 3. Students will describe chromosomal theory of inheritance. 4. Students will explain sex determination mechanisms. 5. Students will analyze causes of genetic variation. **Chapter 6: Molecular Basis of Inheritance** 1. Students will explain structure and functions of DNA and RNA. 2. Students will describe DNA replication process. 3. Students will explain transcription and translation. 4. Students will understand genetic code and protein synthesis. 5. Students will analyze applications of molecular genetics.
4	**July**	**Chapter 6: Evolution** **Chapter 7: Human Health and Disease** **Chapter 8: Microbes in Human Welfare**	**Chapter 6: Evolution** 1. Students will explain theories of evolution. 2. Students will describe evidences supporting evolution. 3. Students will explain natural selection and adaptation. 4. Students will analyze Hardy-Weinberg principle. 5. Students will understand human evolution and speciation. **Chapter 7: Human Health and Disease** 1. Students will identify causes of common diseases. 2. Students will explain immunity and immune responses. 3. Students will describe pathogens and their transmission. 4. Students will explain prevention and control of diseases. 5. Students will analyze the importance of public health measures. **Chapter 8: Strategies for Enhancement in Food Production** 1. Students will explain methods of animal husbandry.

			2. Students will describe plant breeding techniques. 3. Students will explain single cell protein and biofortification. 4. Students will understand fisheries and apiculture practices. 5. Students will analyze strategies for increasing food production.
5	**August**	**Chapter 9: Biotechnology: Principles and Processes** **Chapter 10: Biotechnology and its Applications**	**Chapter 9: Biotechnology: Principles and Processes** 1. Students will explain principles of biotechnology. 2. Students will describe recombinant DNA technology. 3. Students will identify tools used in genetic engineering. 4. Students will explain processes involved in gene cloning. 5. Students will analyze applications of biotechnology techniques. **Chapter 10: Biotechnology and its Applications** 1. Students will explain applications of biotechnology in agriculture. 2. Students will describe genetically modified organisms (GMOs). 3. Students will explain gene therapy and molecular diagnosis. 4. Students will understand ethical issues in biotechnology. 5. Students will analyze benefits and risks of biotechnology.
6	**September**	Half Yearly Examinations	Learner will be able to recall, revise and strengthen concepts learned during the academic session for better understanding and application
7.	**October**	**Chapter 11: Organisms and Populations** **Chapter 12: Ecosystem**	**Chapter 11: Organisms and Populations** 1. Students will explain interactions between organisms and environment. 2. Students will describe adaptations in organisms. 3. Students will explain population growth patterns. 4. Students will analyze ecological relationships among species. 5. Students will understand factors affecting populations. **Chapter 12: Ecosystem** 1. Students will explain structure and functions of ecosystem. 2. Students will describe energy flow in ecosystems. 3. Students will explain ecological pyramids and food chains. 4. Students will analyze nutrient cycling processes. 5. Students will understand ecological balance and productivity.

8	**November**	**Chapter 13: Biodiversity and Conservation**	**Chapter 13: Biodiversity and Conservation** 1. Students will explain levels and importance of biodiversity. 2. Students will identify threats to biodiversity. 3. Students will describe conservation strategies. 4. Students will explain in-situ and ex-situ conservation methods. 5. Students will analyze the role of individuals in biodiversity conservation.
9	**December**	Revision Pre-Board Examination	Learner will be able to integrate scientific concepts effectively and improve analytical and application-based skills for examinations
10	**January**	Revision Pre-Board Examination	Revise and strengthen conceptual understanding of all chapters. Develop problem-solving and critical thinking skills. Improve analytical and application-based learning through case-study questions. Enhance examination readiness through assignments and tests.
11	**February**	Revision Practical Examinations	Strengthen accuracy, logical thinking, and application-based learning
12	**March**	Revision Board Examination	

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