Competency Statements
Standard XII

Unit	After studying content in the textbook student will....
Unit 1 : Reproduction	1. Know the significance of reproduction in life of species. 2. Explain the difference between asexual and sexual reproduction in plants and animals. 3. Recognize the importance of asexual and sexual reproduction in plants and animals. 4. Compare and analyze different modes of asexual reproduction. 5. Know the reduction in the size of gametophytic generation. 6. Know the different adaptation in the flowers depending upon the agency to accomplish pollination. 7. Describes mechanism of sexual reproduction. 8. Recognize, analyze and compare structural similarities, differences and progressive evolutionary changes in reproduction in lower and higher plants and animals. 9. Explain embryo development both in plants and animals.
Unit 2 : Genetics and Evolution	1. Explain the mechanism of inheritance and variation. 2. Elaborate the role of chromosome, its molecular basis of heredity. 3. Explain the laws of inheritance and further elaborate the reasons of variation. 4. Describe the basis of origin of life, geological time scale, evidences. 5. Explain, describe and compare different theories of evolution. 6. Explains the structure and functions of genetic materials. 7. Use of genetics in studying patterns of sex determination in honey bees, birds and human beings mentioning different genetic disorders. 8. Explain inheritance of sex linked characters in humans. 9. Define concept of genomics, applications of genetic engineering and gene regulation. 10. Explain chromosomal theory of inheritance, linkage and crossing over. 11. Understands evidences for DNA as genetic material, genetic code.
Unit 3 : Physiology	1. Explain the scientific reasons behind various physiological activities based on relationship. 2. Understand the relationship between chemical reactions, structural organization involved and its impact on organism. 3. Analyze and explain the experimental setup. 4. Draw diagrams and give comments on findings and observations. 5. Describe the contribution of different workers or scientists and its significance. 6. Understand and explain role of physiology in biology. 7. Explain and draw mechanisms of different physiological processess. 8. Explain importance, source and methods of absorbtion of water, water as 'elixir of life'. 9. Explain loss of excess water, significance of transpiration, transpiration as 'necessary evil'. 10. Define growth, types of growth, phases of growth, growth curves, growth rates. 11. Explain minerals, their role, sources and methods of absorbtion. 12. Differentiate respiration. 13. Explain circulatory system.
Unit 4 : Applied Biology	1. Explains correlation between diseases and health. 2. Identify and elaborate various types and effects of Addications. 3. Elaborate the role of microbes in food production. 4. Describes, compare, review different techniques developed for betterment of life. 5. Understand applications of technology used to overcome problems in daily life. 6. Suggest remedial measures for improvement of social health. 7. Describe and suggest career opportunities in the fields of dairy, poultry and other field. 8. Explain role of microbes in upcoming fields as Biocontrol agents, Sewage treatment, Nanotechnology. 9. Elaborate the need of bio technology.
Unit 5 : Ecology and Environment	1. Explains the correlation, interaction and effect of environment on organisms. 2. Understand and explain the relationship in ecosystem, role of energy flow. 3. Analyze, understand and explain environmental issues and their impact. 4. Contribute, plan and implement programs about conservation of environm 5. Use information gathered to save biodiversity, find remedies to s environmental issues.

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