

MDC-115: INTRODUCTORY LIFE SCIENCES
(Contact Hours-45, Credits-3)

Course Objectives (COs)

- The aim of Introductory Life Sciences course will be to impart knowledge to students related to topics of general aspects of Life Sciences

Learning Outcomes

On completion of the course, students will be able to:

- Know about the concept of general diversity and classification of life forms.
- Know about the concept of Origin of Life.
- Understand about the structural and functional features of prokaryotic and eukaryotic cells.
- Understand the basic concept of genes and their role in inheritance.
- Understand the process of evolution and importance of basic ecological principles.
- Understand the concept of Biodiversity, and appreciate the importance of Wildlife and their conservation.

Unit-I: General features of life form and their classification (up to kingdom); Origin of life.

Unit II: Structure and function of prokaryotic and eukaryotic cells. Introduction to biomolecules (nucleic acids, proteins, carbohydrates and lipids). Basic concept of genes and their role in inheritance.

Unit III: Bio-resources and their economic importance (microbes, plants, and animals). Concepts of evolution, ecology, biodiversity, and wildlife management.

Suggested Readings:

1. Bruce, A., Dennis, B., Karen, H., Alexander, J., Julian, L., Martin, R., Keith, R. and Peter W. (2009). Essential Cell Biology. (3rd ed.). Garland Publishing. London.
2. De Robertis, E. D. P. and De Robertis, L. M. F. (1987). Cell and Molecular Biology, (8th ed.). Lea and Febiger.
3. Gardener, E. J., Simmons, M. J., and Snustad, D. P. (2005). Principles of Genetics. (8th ed.). John Wiley and Sons.
4. Hall, B.K. and Hallgrimsson, B. (2008), Strickberger's Evolution, (4th ed.). Jones and Bartlett Publishers.
5. Krishnamurthy, K.V. (2003). Textbook of Biodiversity. (1st ed.). Science Publisher, Chennai.
6. Mader, S.S. (2008). Concepts of Biology. (Indian ed.).CBS Publishers. New Delhi.
7. Sharma B.D. (1999). Indian Wildlife Resources, Ecology and Development. (1st ed.).Daya Publishing House, Delhi.
8. Sharma, P. D. (1990). Ecology and Environment, 7th Edition. Rastogi Publications. Meerut.
9. Singh S.K. (2005). Textbook of Wildlife Management (2nd ed.). International Book Distributing Company, Lucknow.