Zoology Course 2.02

BASIC EMBRYOLOGY AND BIOTECHNOLOGY

2 CREDITS

Objectives

- To study the basic concept of embryology
- To study basic biotechnology and its applications
- To study how the animal life evolved

UNIT I: BASIC EMBRYOLOGY **(15 Lectures)**

Fertilization

Types of eggs: Microlecithal, Mesolecithal, Macrolecithal, Isolecithal, Telolecithal and Centrolecithal.

Types of cleavage

Blastulation and Gastrulation

Types of blastula / blastulation in Amphioxus, Sea Urchin, Amphibians and Birds

Types of gastrula / gastrulation in Amphioxus, Sea Urchin, Amphibians and Birds

UNIT II: BASIC BIOTECHNOLOGY **(15 Lectures)**

Basic Biotechnology

Concept of biotechnology

Fundamentals in laboratory techniques in biotechnology: Safe handling of instruments, Sterilization technique, Chromatography and Electrophoresis technique.

Food biotechnology

Enzyme technology

Environmental biotechnology

REFERENCES

1. Biochemistry - Lehninger, 5th Edition, Pal Grav Mc Millan Publication
2. Biochemistry – Harper, Mc Graw Hill Publication
3. Outlines of Biochemistry - Conn & Stumpf, Wiley Eastern Ltd.
4. Introduction to Biochemistry – Dr. A.C. Deb, New Central Book Agency (P) Ltd.
   Biochemistry – Satyanarayan, Elite Publication
5. Genetics – by Winchester
6. Cell biology and Genetics by C. Stan and R. Tagari
7. Genetics by Strickberger
8. Principals of Genetics by Tamarin
9. Biotechnology: Fundamentals and Application, 3rd Ed, Agrobios
10. Basic biotechnology, Fr. Ignasimuthu, Tata McGraw Hill
11. Introduction to evolution by Moody
12. Evolution by Strickberger
13. Theory of Evolution by Smith
14. Evolution by P.S.Verma and Agarwal