

**Z-3609 & Z-3610**

**DEVELOPMENTAL BIOLOGY-II & LAB**

**Cr. 3(2+1)**

**Theory**

Cellular Basis of Morphogenesis: Differential cell affinity, cell adhesion molecules; Mechanism of

Cellular Differentiation: RNA processing, translational regulation of developmental process, cell-fate by progressive determinants, autonomous cell specification by cytoplasmic determinants, establishment of body axes, teratogenesis; Secondary Induction; Organogenesis: A brief account; Origin and Migration of Germ Cells in Vertebrates; Various organs formation from germinal layers, Factors controlling Growth and Oncogenesis. Hormones as Mediators of Development; Regeneration in Vertebrates.

### **Practicals**

Preparation and study of serial sections of mammalian or chick embryos. Application of microsurgical techniques on chick embryos *in vitro*. Preparation and staining of histological slides. Study of fertilization.

### **Books Recommended:**

1. Scott F. Gilbert. 2008-onward. Developmental Biology, Sinauer Associates Inc., Publishers, Massachusetts.
2. Bruce M. Carlson. 2000. Human Embryology and Developmental Biology, Mosby, London.
3. Balinsky, B.I. 1985. An Introduction to Embryology, W.B. Saunders, New York.