

**D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1.**  
**DEVELOPMENTAL BIOLOGY (16CPZO3B)**

**UNIT-I**

**SECTION-A**

**6 Marks**

1. Describe the role of egg cortex.
2. Write short notes on cell adhesion and cell communication.
3. Discuss about the experimental analysis in the early development of Echinoderms.
4. Write about the early development of amphibians with experimental evidences.
5. Discuss about the early development of birds.
6. Write an essay on the cell surface in morphogenesis.
7. Define the term gastrulation. What are the chemical changes occurs during gastrulation.

**SECTION-B**

**15 Marks**

1. What are the morphogenetic movements? Describe briefly any five types of morphogenetic movements occurs during gastrulation.

**UNIT-II**

**SECTION-A**

**6 Marks**

1. Describe the development of eye in mammals.
2. Give an illustrated account on development of heart in mammals.
3. Give a detailed account on the organizer and its role in inductive tissue interaction in development.

**SECTION-B**

**15 Marks**

1. Write an essay on organizer concept.
2. What is differentiation? Describe about the different levels of differentiation.

**UNIT-III**

**SECTION-A**

**6 Marks**

1. Describe in brief the mechanism of nuclear transplantation.
2. Give an account on cellular differentiation and protein synthesis.
3. Write short notes on differential activation.
4. Discuss about the developmental genetic defects.

**SECTION-B                      15 Marks**

1. Give a detailed account on the role of cell death in development.
2. Explain about the stem cell therapy.

**UNIT-IV                      SECTION-A                      6 Marks**

1. Describe in details the mode of embryonic nutrition in mammals.
2. Write an essay on physiology of placenta and bioethics.
3. Define food reserve and embryonic nutrition.

**SECTION-B                      15 Marks**

1. Discuss about the morphological and biochemical changes involved in the metamorphosis of tadpole of frog.
2. Discuss hormonal control of metamorphosis in insect.
3. Discuss the role of various hormones that control metamorphosis in amphibians.
4. Write a note on inductive interaction in regeneration of planaria.

**UNIT-V                      SECTION-A                      6 Marks**

1. Describe in details the mode of embryonic nutrition in mammals.
2. Write an essay on physiology of placenta and bioethics.
3. Define food reserve and embryonic nutrition.

**SECTION-B                      15 Marks**

1. Give an account on the nutritional requirements of embryo.
2. Write about the embryonic nutrition from mother