

## Mode of Examination: Open Book Examination

Unique Paper Code	: 32231601
Name of the Paper	: Developmental Biology
Name of the Course	: B.Sc. (Hons) Zoology-CBCS
Semester	: VI
Duration	: 3
Maximum Marks	: 75

### **Instruction for Students**

Write your Roll No., Name of the paper, Course, Semester, and Date of examination on the first page of answer sheet.

Number all pages and sign at the bottom of each page.

Attempt **ANY FOUR** questions. All questions carry equal marks.

Support your answers with neat labelled diagrams wherever these are required.

01. What are extra embryonic membranes? How are they evolutionary significant? Discuss their development in chick with the help of suitable diagrams. Add a note on their functions.
02. Define fate map. Explain different methods of preparing a fate map. Draw well labelled diagrams of fate map of frog and chick blastula.
03. Enumerate different morphogenetic movements involved in gastrulation. Explain the process of gastrulation in frog. How does it differ from chick gastrulation?
04. Describe the mechanism of fertilization in detail. How does sea urchin egg safeguard itself from polyspermy?
05. Describe the steps involved in the procedure of IVF. Enumerate different types of stem cells. Add a note on embryonic stem cells and their significance in regenerative medicine.
06. What are the different patterns of regenerations exhibited in animals? Describe the mechanism of limb regeneration in salamander. Briefly discuss the polarity of regeneration.