



VIT

Vellore Institute of Technology
(Deemed to be University under section 3 of U.G. Act, 1956)

SCHOOL OF BIO SCIENCES AND TECHNOLOGY
CONTINUOUS ASSESSMENT TEST -I
WINTER SEMESTER 2024-2025

Programme Name & Branch	: MSc Biotechnology Integrated
Course Code	: TBIT209L
Course Name	: Developmental Biology
Slot	: F1+TF1
Faculty Name(s)	: Debasish Mishra (13735), Devi Rajeswari V. (10601)
Class Number(s)	: VL2024250501302/ 1300
Date of Examination	: 01/02/2025
Exam Duration	: 90 minutes

Maximum Marks: 50

General instruction(s): *Answer all questions. **Read the questions carefully before answering.
***Use neat diagrams to support your answers.

Q. No.	Questions	Marks
1.	Compare the morphological features of male and female gametes in mammals. Use neat diagrams to support your statements.	10
2.	Enlist and elaborate the events that occurs during the fertilization of secondary oocytes in mammals, until membrane fusion stage.	10
3.	Explain the following phenomena: a) Prevention of polyspermy (5 marks) b) Metabolic activation of secondary oocytes post-fertilization (5 marks)	10
4.	Compare and contrast in the following: a) The 'preliminary cleavage' patterns in drosophila and amphibian embryos. (5 marks) b) The terms- 'transitional blastoderm' and 'mid-blastula transition' in the context of drosophila embryonic development. (5 marks)	10
5.	Summarize the process of 'germ layer determination' in frogs.	10