

2025

(FYUGP)

(6th Semester)

ZOOLOGY

(MAJOR)

Paper : ZOO/C13

(Developmental Biology)

Full Marks : 75

Pass Marks : 40%

Time : 3 hours

The figures in the margin indicate full marks for the questions

- 1. Discuss the historical perspective of developmental biology and explain the basic concept of developmental biology. 15**

Or

Discuss the mechanism of pattern formation, differentiation and growth during embryonic development.

2. Describe the process of spermatogenesis with proper diagrams. 15

Or

What are fate maps? Explain the early development of frog up to gastrulation with labelled diagram. 2+13=15

3. What is the fate of germ layers? Describe the derivatives of ectoderm, mesoderm and endoderm. 2+13=15

Or

Describe the embryo implantation process in humans, highlighting key stages. 15

4. Explain metamorphosis in amphibians, focusing on morphological changes and hormonal regulation. 15

Or

Define regeneration and explain the modes of regenerations with examples of epimorphosis, morphallaxis and compensatory regeneration.

(3)

5. Define teratogenesis and explain the effects of teratogenic agents on embryonic development. $2+13=15$

Or

What is *in vitro* fertilization? Explain the different steps involved in *in vitro* fertilization in detail. $7\frac{1}{2}+7\frac{1}{2}=15$

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