

[ SZ - S 368 B ]

M.Sc. DEGREE EXAMINATION

Zoology

Third Semester

**DEVELOPMENTAL BIOLOGY**

(Effective from the admitted batch of 2022-2023)

Time : 3 hours

Max. Marks : 70

*Answer ALL questions.  
All questions carry equal marks.*

**UNIT - I**

1. (a) Explain the different types of potency with examples.  
(b) What is genomic imprinting? Explain its mechanism, regulation and functions.

(OR)

2. (a) Describe the three ways of studying cell lineages.  
(b) Write notes on heterogamy in eukaryotes.

**UNIT - II**

3. (a) What is gastrulation? Explain the formation of germ layers?  
(b) Describe the different types of cleavages with examples.

(OR)

(P.T.O.)



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4. (a) Discuss the various biochemical changes during fertilization.
- (b) Describe the sperm structure and function.

UNIT - III

5. (a) Explain the cell aggregation and differentiation in Dictyostelium.
- (b) Write an account on vulva formation in C.elegans.

(OR)

6. (a) Describe the limb development and regeneration in vertebrates.
- (b) Explain the environmental regulation of normal development.

UNIT - IV

7. (a) Explain the production and applications of transgenic animals.
- (b) What is super ovulation? Explain its significance in in vitro fertilization.

(OR)

8. (a) What are the different types of Embryonic stem cells? Describe their function.
- (b) Describe the process of in vitro fertilization.

5 + 6  
11 + 2 + 6 + 9



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UNIT - V

9. (a) Discuss the mitochondrial replacement theory.
- (b) Explain the method of screening for genetic disorders.

(OR)

10. (a) What is immunocontraception? Explain its advantages and disadvantages.
- (b) Write an essay on teratological effects of xenobiotics.

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