[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)

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- (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 <u>C.elegans</u>.

(OR)

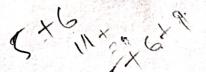
- 6. (a) Describe the limb development and regeneration in vertebrates.
 - (b) Explain the environmental regulation of normal development.

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.



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UNIT - V

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

(OR)

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

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