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B.Sc. 4th Semester (New Scheme) (Fresh and Re-Appear)

Examination, May-2023

BIO-TECHNOLOGY

Paper- BT-403

Animal Developmental Biology

Time allowed : 3 hours]

[Maximum marks : 40

Note : Question No.1 is compulsory. Attempt four more questions by selecting one question from each unit. All questions carry equal marks.

1. Write the short notes on the following? $2 \times 4=8$
 - (a) Function & formation of Acrosome
 - (b) Mechanism of sex determination in mammals.
 - (c) Cell commitment
 - (d) Role of Stem cells in neurodegenerative diseases

Unit-I

2. What is Developmental biology? Describe the scope and historical perspective of Development Biology in detail. 8

3. Write the short notes on any two: $4 \times 2=8$

- (a) Spermatogenesis
- (b) Fertilization
- (c) Different types of eggs based on yolk

Unit-II

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4. What are Fate maps? How Fate mapping is significant for an embryologist? 8
5. Write the short notes on any *two*: $4 \times 2=8$
- (a) Cleavage types & pattern
 - (b) Blastulation
 - (c) Primary germ layer
6. Write the short note on: $4 \times 2=8$
- (a) Embryonic Differentiation
 - (b) Animal model for developmental biology

Unit-III

7. What is the embryonic induction? Describe the primary, secondary & tertiary types of embryonic induction in detail 8

Unit-IV

8. What is the placenta? Describe the various functions of the placenta 8
9. Write the short note on: $4 \times 2=8$
- (a) Neurulation
 - (b) Development of eye in the vertebrate.

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