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B.Sc. 4th Semester (New Scheme)

Examination, April-2018

BIOTECHNOLOGY

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) Father of developmental biology
- (b) Yolk & its Functions
- (c) Two animal models for developmental study
- (d) Totipotent & Pluripotent cells

Unit-I

2. What is the developmental biology? Describe history and scope of developmental biology in detail. 8

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

- (a) Oogenesis
- (b) Spermatogenesis
- (c) Mechanism of fertilization

(2)

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Unit-II

Define germ layers. Describe formation and differentiation of primary germ layers. 8

Write the short note on any *two*: 4 x 2 = 8

(a) Cleavage

(b) Epiboly, emboly & extension invagination

(c) Blastulation

Unit-III

Write the short note on: 4 x 2 = 8

(a) Cell commitment & determination

(b) Embryonic Induction

What is differentiation? Describe the control of differentiation at transcriptional and post-translational level during the embryonic developmental? 8

Unit-IV

What is placenta? Describe various types and functions of placenta in mammals. 8

Write the short note on any *two*: 4 x 2 = 8

(a) Neurulation: transformation of neural plate

(b) Organogenesis

(c) Behavior development: constancy & plasticity