



BSC 6 – 35

B.Sc. (Semester – VI) Examination, April 2017
ZOOLOGY (Paper – XIII)
Developmental Biology

Duration : 2 Hours

Max. Marks : 80

- Instructions:** 1) **All questions are compulsory.**
2) **Figures to the right indicate full marks.**
3) **Draw neat labelled diagrams wherever necessary.**

1. Answer **any four** of the following. 16
- 1) Explain Physiological process involved during regeneration.
 - 2) Describe the structure and functions of egg membranes.
 - 3) Explain nuclear transplantation with an example.
 - 4) Submit an account of Blastulation in chick.
 - 5) Describe how Cleavage takes place in chick.
 - 6) What is Cell lineage study ? Discuss its significance.
2. Write short notes on **any four** of the following. 16
- a) Significance of Fertilization.
 - b) Concept of competence.
 - c) Types of eggs based on yolk distribution.
 - d) Characteristics of a organizer.
 - e) Flexion and Torsion in chick.
 - f) Ageing concept and models.
3. A) What are morphogenetic movements ? Explain embolic morphogenetic movements. 6

OR

- A) Explain the biochemical events that occur during fertilization. 6
- B) What is a Fate map ? Describe any three methods of fate map construction. 6



4. A) Briefly discuss types of embryonic induction and explain sequential induction with reference to eye. 6
- OR
- A) What is neural induction ? Explain neural induction with the help of a suitable example. 6
- B) Submit an illustrated account of development of yolk sac. 6
5. A) Describe the general appearance of a 48 hours old chick embryo. 6
- OR
- A) Describe briefly general features of a 24 hours chick embryo. 6
- B) Trace the development of optic vesicles upto 72 hours of incubation in chick. 6
6. A) Explain mechanism of regeneration with reference to vertebrate limb. 6
- OR
- A) Discuss regenerative capacities in different groups of vertebrates. 6
- B) What is placenta ? Explain the types of placenta based on distribution of chorionic villi. 6

2. Write short notes on any four of the following:

a) Significance of Fertilization.

b) Concept of competence.

c) Types of eggs based on yolk distribution.

d) Characteristics of a organizer.

e) Flexion and Torsion in chick.

f) Aging concept and models.

3. A) What are morphogenetic movements ? Explain embryonic morphogenetic movements.

OR

A) Explain the biochemical events that occur during fertilization.

B) What is a karyotype? Describe any three methods of karyotype construction.