00291

The Open University of Sri Lanka
Faculty of Natural Sciences
B.Sc/ B. Ed Degree Programme

Department	: Zoology
Level	: 4
Name of the Examination	: Final Examination
Course Code and Title	**: ZYU4302 – Animal Development**
Academic Year	: 2019/20
Date	: 28.12.2019
Time	: 1.30 – 3.30 p.m.
Duration	: 2 hours

General Instructions

1. Read all instructions carefully before answering the questions.
2. This question paper consists of **6** questions given in the second page.
3. Answer **any 4** questions only. All questions carry equal marks.
4. Answer for each question should commence from a new page.
5. **Draw fully labelled diagrams where necessary.**
5. Relevant log tables are provided where necessary.
6. Having any unauthorized documents/ mobile phones in your possession is a punishable offense.
7. Use blue or black ink to answer the questions.
8. Circle the number of the questions you answered in the front cover of your answer script.
9. Clearly state your index number in your answer script

1. Describe the process of oogenesis in (eutherian) mammals including the follicle development. (100 marks)

2. Explain how the sea urchin sperms get attracted towards the eggs and how the sperm attaches to and penetrates the egg membrane. 100 marks)

3. (i) Describe the process of gastrulation in chick embryo. (80 marks)

   (ii) Compare the process of gastrulation of chick with that of mammals. (20 marks)

4. Outline the process of wing development in chick embryo. (100 marks)

5. (i) Explain how the fate maps and specification maps are constructed and what are the effects of these construction methods on the results obtained? (20 marks)

   (ii) Explain how the three germ layers are specified in early frog embryos. (80 marks)

6. Write short notes on **any 2** of the following;
   (a) Spiral cleavage
   (b) Amphibian metamorphosis
   (c) Cell-cell recognition and adhesion
   (d) Therapeutic cloning

   (50 marks each)