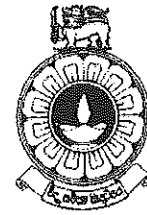


The Open University of Sri Lanka  
Faculty of Natural Sciences  
B.Sc/ B. Ed Degree Programme 2021/22  
ZYU4302 – Animal Development: Final Examination  
Date: 15.10.2022



Time: 1.30 – 3.30 p.m.

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This question paper consists of 06 questions. Answer any 04 questions.

Draw fully labelled diagrams where necessary.

1. Describe the process of oogenesis that occurs in female frogs. (80 marks)  
How does the process of oogenesis in mammals differ from that of frog? (20 marks)
2. Selecting suitable examples, describe the supplementary processes occurring in an egg activated by the entering of a sperm. (100 marks)
3. (i) How does the single-layered blastoderm of chick embryo form two-layered blastula? (25 marks)  
(ii) Describe the process of gastrulation occurring in chick embryo. (75 marks)
4. Outline the process of development of heart in the frog embryo. (100 marks)
5. (i) Describe an experiment which proved that the cells of the three germ layers of an amphibian separated and mixed in different ways, re-aggregate to reflect their embryonic positions. (50 marks)  
(ii) Describe an experiment which prove that the determination of mesoderm of frog embryo depends on induction from endoderm. (50 marks)
6. Write short notes on any two (2) of the following:
  - (a) Cleavage of frog zygote
  - (b) Metamorphosis of frog
  - (c) Cell determination
  - (d) Therapeutic cloning (50 marks per each)

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