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**RAJARATA UNIVERSITY OF SRI LANKA  
FACULTY OF APPLIED SCIENCES**

**B.Sc. in Applied Sciences  
Second Year - Semester II Examination – September/October 2020**

**ZOO 2205 - EMBRYOLOGY AND DEVELOPMENTAL BIOLOGY**

**Time: Two (02) hours**

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**Answer any FOUR (04) questions.**

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1. a) Distinguish gastrulation from cleavage in an embryo. (10 marks)  
b) Explain briefly the five (05) basic types of gastrulation patterns with appropriate diagrams and examples. (50 marks)  
c) Describe the four (04) von Baer's laws of embryology. (40 marks)
2. a) State the main characteristic features of stem cells. (10 marks)  
b) Describe the types of stem cells based on their potential to differentiate. (50 marks)  
c) Discuss the process of cell commitment in the development of an embryo. (40 marks)
3. a) State the importance of study of early amphibian development in developmental biology. (06 marks)  
b) Explain the process of cleavage of an amphibian egg. (50 marks)  
c) Describe the cell fate map in an amphibian embryo. (44 marks)
4. Describe the extraembryonic membranes of chick embryo emphasizing their development, structure and functions. (100 marks)

5. Explain briefly the followings.

- a) Compaction and cavitation in mammalian cleavage (25 marks)
- b) Role of cadherins in cell adhesion during formation of tissues in an embryo (30 marks)
- c) Cell migration in epithelial and mesenchymal cells of an embryo (45 marks)

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