

THE OPEN UNIVERSITY OF SRI LANKA

B.Sc./B.Ed. DEGREE PROGRAMME – LEVEL 04
FINAL EXAMINATION – 2025/26



ZYU4302: ANIMAL DEVELOPMENT

DATE: 29th November 2025

Time: 1.30 p.m. – 3.30 p.m.

ANSWER **ANY 04** QUESTIONS.

ANSWERS TO QUESTIONS SHOULD BE ILLUSTRATED WITH CLEARLY LABELLED DIAGRAMS, WHERE NECESSARY.

1. (i) Describe the process of spermatogenesis in frogs, outlining the stages involved in the formation of mature sperm cells. (60 marks)
- (ii) Illustrate the process of spermiogenesis involved in the formation of mature sperm cells. (25 marks)
- (iii) Compare and contrast spermatogenesis with oogenesis in frogs, highlighting the key differences between the two processes. (15 marks)
2. Explain how the amount and pattern of yolk distribution in an egg influence the type and pattern of cleavage during early embryonic development. (100 marks)
3. Describe the process of gastrulation of frog using suitable diagrams. (100 marks)
4. Describe the stages involved in the development of the wing in a chick embryo, outlining the key structural changes that occur during its formation. (100 marks)
5. Discuss the involvement of genes in the development of segments in *Drosophila melanogaster*. (100 marks)
6. Write short notes on **any 3** of the following: (33 marks for each)
 - (a) Chick extra-embryonic membranes
 - (b) Assisted reproductive technologies.
 - (c) Hormonal regulation in insect metamorphosis
 - (d) Human Placenta
