

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE IN BACHELOR OF SCIENCE

ZOOL 331: DEVELOPMENT BIOLOGY

STREAMS:

TIME:2 HOURS

DAY/DATE: THURSDAY 13/04/2023

11.30 A.M. –1.30 P.M.

INSTRUCTIONS

Answer all questions in Section A and any two from section B.

Do not write anything on the question paper

SECTION A (30 MARKS) Answer all questions in this section

1. Using suitable examples, classify eggs based on the distribution of yolk (4 marks)
2. Describe types of meroblastic cleavage (5 marks)
3. Give the outcome of the following processes in embryology:
 - a) Delamination in mammals (2 marks)
 - b) Stem cell-mediated regeneration (2 marks)
4. Explain mechanism that prevent polyspermy (5 marks)
5. Describe the process of neurulation (6 marks)
6. Explain the role of infectious agents in the development of congenital malformations (6 marks)

SECTION B (40 MARKS) ANSWER ANY 2 QUESTIONS

7. a) Describe structure and functions of components of a mammalian sperm cell (15 marks)
b) Describe spermiogenesis (5 marks)
 8. Discuss cleavage and blastulation in sea urchins (20 marks)
 9. Describe gastrulation in Zebra fish (20 marks)
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