



(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2021 / 2022 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER

MAIN EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF EDUCATION (SCIENCE) (B. ED SCIENCE)
AND BACHELOR OF SCIENCE (B. SC BIOLOGY)

COURSE CODE: SBL 221

COURSE TITLE: DEVELOPMENTAL BIOLOGY

DATE: 13TH MAY 2022

TIME: 2.00 PM

INSTRUCTIONS TO CANDIDATES

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

QUESTION ONE

- a. Distinguish between morphogenesis and embryogenesis (2mks)
- b. Briefly explain the process of cleavage (3mks)
- c. Define the following terms (4mks)
- i) Cortical rotation
 - ii) Gastrula
 - iii) Induction
 - iv) Morula
- d. Name two divisions of Gametogenesis. (2mks)
- e. Outline two functions of Sertoli cells. (2mks)
- f. Briefly describe the process of vitellogenesis. (3mks)
- g. Outline the five basic steps involved in recognition of sperm and egg (5mks)
- h. Give a brief account of the events involved in the late responses of egg activation. (3mks)
- i. Name any three basic types of cell movements involved in gastrulation. (3mks)
- j. Outline the three groups of cells in the embryo which differentiate to different tissues (3mks)

QUESTION TWO

Describe the development, structure and function of the mammalian placenta (20mks)

QUESTION THREE

Describe the process of spermiogenesis and oogenesis explaining their differences (20mks)

QUESTION FOUR

- a) What brings about polarity in an egg? (5mks)

b) Describe the female reproductive system and the process of oogenesis
(15mks)

QUESTION FIVE

Discuss the process of Gastrulation and explain the various types of cell movements
(15mks)

a) Write short notes on how different parts of embryo were formed according to Aristotle.
(5mks)