

40



(Knowledge for Development)

KIBABII UNIVERSITY
UNIVERSITY EXAMINATIONS
2019/2020 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: Wednesday 10th February, 2021 **TIME:** 8:00 – 10:00 a.m.

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 3 printed pages. Please Turn Over 

KIBU observes ZERO tolerance to examination cheating

Q1

- a) Identify the fates of the gastrula three germ layers 3mks
- b) List the factors responsible for embryonic induction during organogenesis. 3mks
- c) Define the following terms: 4mks
- i. Cleavage
 - ii. Gastrulation
 - iii. Fertilization
 - iv. Teratogenesis.
- d) Explain factors that determine cleavage patterns in animals. 2mks
- e) Give a brief explanation on the major types of meroblastic cleavage 5mks
- f) Using a well labeled diagram, Explain how the mammalian ovum adapted to its function? 4mks
- g) An expectant mother is always advised to avoid exposure to pathogens like viruses or bacteria, drugs like alcohol or any other environmental hazards. Explain. 3mks
- h) Distinguish between morphogenesis and embryogenesis. 3mks
- i) A frog zygote and a frog blastula are nearly the same size. Explain this observation. 3mks

Q2

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

Q3

- a) What is parthenogenesis and hermaphrodite 5mks
- b) Describe the mechanisms of fertilization in animals. 15mks

Q4

- a) What brings about polarity in an egg? 5mks
- b) Describe the female reproductive system and the process of oogenesis 15mks

Q5

- a) While explaining the various types of cell movements, discuss the process of Gastrulation. 15mks
- b) Write short notes on the problems of how different parts of embryo were formed according to Aristotle. 5mks