



NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
MARCH/APRIL 2016 EXAMINATION

SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: BIO413
COURSE TITLE: DEVELOPMENTAL BIOLOGY

TIME ALLOWED: 2 HOURS

INSTRUCTION: ANSWER QUESTION 1 AND ANY OTHER THREE QUESTIONS

- 1ai. What do you understand by the term Assisted Reproductive Technology? (2 marks)
- ii. Define the terms: meiosis, gastrulation and differentiation (6marks)
- bi. Enumerate and describe four planes of cleavage, providing named examples. (8 marks)
- ii. Explain the six general questions scrutinized by Developmental Biologists. (9 marks)
- 2a. Explain the functions of a placenta. (3 marks)
- b. Enumerate and describe the types of placenta in animals, based on the following:
 - (i) histology (7.5 marks)
 - (ii) degree of association (4.5 marks)
- 3a. Define gametogenesis. (3 marks)
- b. Write **short notes** on any three of the following birth control methods:
 - (i) Copper T IUD (Intrauterine device) (4 marks)
 - (ii) Depo-provera (4 marks)
 - (iii) Contraceptive sponge (4 marks)
- 4a. List the different patterns of embryonic cleavage. (3 marks)
- b. Give an account of the common methods of assisted reproductive technology.(12 marks)
- 5a. List the functions of Sertoli cells. (3 marks)
- b. Outline the various types of eggs based on the distribution and amount of yolk (6 marks)
- c. describe how male infertility can be treated? (6 marbs)

- 6a. Outline the germ layers that produce the basic animal tissues. (3 marks)
- b. State the differences between cleavage and gastrulation. (5 marks)
- c. In a tabular form distinguish between mitotic and meiotic cell divisions. (7 marks)