



NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
SCHOOL OF SCIENCE AND TECHNOLOGY
MAY/JUNE 2012 EXAMINATION

BIO 413 DEVELOPMENTAL BIOLOGY
TIME: 2 HOURS

INSTRUCTION: ANSWER ANY FOUR QUESTIONS

- 1a. Explain the anatomical approach to studying embryology in development.
b. With the help of a well labeled illustration, describe and explain the life cycles and evolution of developmental patterns.
- 2ai. What do you understand by gametogenesis?
ii. How can male infertility be treated?
bi. Outline the major differences between mitotic and meiotic cell divisions.
ii. What are the significance of mitosis and meiosis in animal reproduction?
- 3ai. List the steps involved in the interaction of sperm and egg in sea urchin.
ii. Describe the term fertilization.
bi. State the different patterns of embryonic cleavage.
ii. Describe the process of cleavage in a bird.
- 4ai. Explain the term organogenesis.
ii. How can eggs be classified?
bi. What do you understand by primary egg membrane?
ii. Describe the different types of primary egg membranes you know.
- 5ai. Describe the structure of a placenta.
ii. Explain the functions of a placenta.
b. Write short notes on any four of the following birth control methods:
(i) Copper T IUD (Intrauterine device) (ii) Depo-provera (iii) Contraceptive sponge (iv) The patch (v) The mini-pill
- 6a. Enumerate five ways through which infertility may be prevented in:
(i) Males (ii) females

- bi. What do you understand by the term Assisted Reproductive Technology?
- ii. Describe the common methods of Assisted Reproductive Technology you know.