



**NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND, LAGOS
SCHOOL OF SCIENCE AND TECHNOLOGY
JANUARY/FEBRUARY 2013 EXAMINATION**

BIO 413

COURSE TITLE: DEVELOPMENTAL BIOLOGY

CREDIT UNIT: 2

TIME: 2 HOURS

INSTRUCTION: ANSWER ANY FOUR QUESTIONS

1ai. Define 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.

2ai. What do you understand by the term Assisted Reproductive Technology (ART)?

ii. Describe the common methods of Assisted Reproductive Technology you know.

b. Enumerate five ways through which infertility may be prevented in:

(i) Males (ii) females

3ai. List the functions of a placenta.

.ii. State the principles of development.

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

4ai. List the stages of mitotic cell division.

ii. Describe the fusion of genetic cell materials in mammals.

b. Explain the anatomical approach to studying embryology in development.

5ai. List the steps involved in the interaction of sperm and egg in sea urchin.

ii. Describe the term fertilization.

bi. List the different patterns of embryonic cleavage.

ii. Describe the process of cleavage in a bird.

6ai. Outline the major differences between mitotic and meiotic cell divisions.

- ii. Explain the significance of meiosis in sexual reproduction?**
- bi. Define gametogenesis?**
- ii. Explain how male infertility can be treated?**