



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

COURSE CODE: BIO413

COURSE TITLE: DEVELOPMENTAL BIOLOGY(2 units)

TIME ALLOWED: 2 HOURS

INSTRUCTION: ANSWER ANY FOUR QUESTIONS

1ai. 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?

2ai. 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.

3ai. What do you understand by the term Assisted Reproductive Technology?

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

4ai. 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.

5ai. 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

6ai. 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