



NATIONAL OPEN UNIVERSITY OF NIGERIA
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
JULY 2017 EXAMINATION

COURSE TITLE: DEVELOPMENTAL BIOLOGY
COURSE CODE: BIO 413 (2 CREDIT UNITS)

CREDIT: 2 units

TIME ALLOWED: 2 HOURS

INSTRUCTION: ANSWER QUESTION ONE (1) AND ANY OTHER THREE (3) QUESTIONS

1. (a) Define the terms: differentiation and organogenesis. (4marks)
(b) Enumerate and describe **four** planes of cleavage, providing named examples. (8 marks)
(c) Enumerate and describe the types of placenta in animals, based on **degree of Association** (6 marks)
(d) In a tabular form distinguish between mitotic and meiotic cell divisions. (7 marks)
2. (a) What do you understand by the term Assisted Reproductive Technology? (2 marks)
(b) Describe the **four** common methods of assisted reproductive technology. (13 marks)
3. (a) Define gametogenesis. (3 marks)
(b) Write **short notes** on the following birth control methods:
(i) Contraceptive sponge (4 marks)
(ii) patch (4 marks)
(iii) Mini-pill (4 marks)
4. (a) Classify placenta based on their histology. (5 marks)
(b) With the help of a **well labeled illustration**, describe the structure of a placenta. (10 marks)
5. (a) List the functions of a placenta (3 marks)
(b) Write **short notes** on the following:
(i) Amnion (4 marks)
(ii) Chorion (4 marks)
(iii) Allantois (4 marks)