



**National Open University Of Nigeria**

**Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja**

**Faculty of Science**

**JANUARY/FEBRUARY 2018 EXAMINATIONS**

**COURSE CODE: BIO 402 CREDIT UNITS: 2**

**COURSE TITLE: PHYTOGENETICS OF PLANTS**

**TIME ALLOWED: 2 Hours**

**INTRUCTION: Answer question ONE (1) and any other THREE (3) questions**

1a. Define cytogenetics (6marks)

b. What do you understand by monospermy? (2marks)

c. Explain chromosomes morphology (5marks)

d. Name the three shapes found in chromosomes (6marks)

e. What is diploidy? (3marks)

f. What are telomeres and their cytogenetic importance?(3marks)

2a. Discuss the roles of Edward Strasberger in the development of Cytogenetics? (9marks)

b. Distinguish between heterochromatin and euchromatin (4marks)

c. What is the main idea of the chromosome theory of inheritance? (2marks)

3a. Discuss the origin of variations in chromosome number (10marks)

b. Why are diploids usually fertile without experiencing the problems of fertility associated with other state of euploidy? (5marks)

4a. What is polyploidy? (5marks)

b. Discuss the advantages of polyploidy (10marks)

5. Write notes on the following:

a. Trisomics ( $2n+1$ ) (5marks)

b. Chromosome Deletion (10marks)