



National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
Department of Pure and Applied Sciences
October/November, 2019 Examination
Course code: BIO 402
Course title: Cytogenetics of plants Units: 2
Time allowed: 2 Hours

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

- 1a. What is the genetic and cytological consequences of translocation? (4marks)
- 1b. Explain how multipolar mitosis might cause aneuploidy? (2marks)
- 1c. Describe the types of translocation in genetics (7marks)
- 1d. State the main diagnostic features of inversions of chromosomes? (4marks)
- 1d. How do inversion behaves genetically? (8 marks)

- 2a. Explain meiosis in Triploids (4marks)
- 2b. What do you understand by twin seedling? (4marks)
- 2c. Discuss the origin of variation in chromosome number (7marks)

- 3a. Explain what is meant by Fourth Level chromosome packaging (6marks)
- 3b. What was the contribution of Thomas Morgan to the chromosome theory of inheritance?
(2marks)
- 3c. Write a short note on the centromere (7marks)

- 4a. Discuss chromosome Deletion (10 marks)
- 4b. What are the roles of Edward Strasburger in Cytogenetic? (5marks)

- 5a. Explain the process of fertility in Monoploids (5marks)
- 5b. Discuss genic balance and development (5marks)
- 5c. What is the evolutionary significance of duplication? (5marks)