



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA
FACULTY OF SCIENCE
DEPARTMENT OF PURE AND APPLIED SCIENCES
2023_1 POP EXAMINATION

COURSE CODE: BIO 301
COURSE TITLE: GENETICS
CREDIT UNIT: 2
TIME ALLOWED: 2 HOURS

INSTRUCTION: ANSWER QUESTION 1 AND ANY OTHER THREE QUESTIONS

- 1a. List the three main goals of population genetics (6marks)
 - 1b. Name the four types of chromosomes abnormalities (4marks)
 - 1c. Define aneuploidy (2marks)
 - 1d. Name three inherited characteristic in man (3marks)
 - 1e. What is an inborn error of metabolism? (3marks)
 - 1f. Define haemophilia
 - 1g. Explain what is nondisjunction (2marks)
 - 1h. List the three ways in which polygenic traits can be distinguished (3marks)
2. Discuss the factors that affect Hardyweinberg principles (15marks)
- 3a. Discuss the application of aneuploidy (7marks)
 - 3b. Explain the first single gene polymorphisms (3marks)
 - 3c. Write short note on mRNA (5marks)
- 4a. Explain how genes determine sex in man (5marks)
 - 4b. Discuss the relationship of environment and gene expression (5marks)
 - 4c. Discuss polyploidy in animals (7marks)
5. With examples, explain the different types of polyploidy (15marks)