NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA
FACULTY OF SCIENCE
DEPARTMENT OF PURE AND APPLIED SCIENCES
SEPTEMBER 2020_1 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 polyplody in animals (7marks)

5. With examples, explain the different types of polyploidy (15marks)