



NATIONAL OPEN UNIVERSITY OF NIGERIA

National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
JULY 2017 EXAMINATION

COURSE CODE: BIO 316

COURSE TITLE: INTRODUCTION TO BIOINFORMATICS

TIME ALLOWED: 2 Hours

INSTRUCTION: Answer Question One (Compulsory) and Three Others

1. a. Define a database. **2marks**
b) What do you understand by Database collaboration? **(7.5marks)**
c) Differentiate between a primary and a secondary database **(8marks)**
d) What is sequence alignment? **(3.5 marks)**
e) List the types of methods of a nucleotide alignments **(4marks)**
2. a. Describe the characteristics of file formats of the primary databases (9 marks)
b. In the historical development of bioinformatics, Margaret O. Dayhoff found out that protein sequences undergo changes according to certain patterns during evolution. State these patterns of change. (6 marks)
3. Define and give meanings to the following bioinformatics terms: **-15marks**
 - i) Accession Number
 - ii) BLAST
 - iii) BLOSUM
 - iv) CLUSTALW.
4. a. What is the full meaning of NCBI? **(1marks)**
b. Describe the major features of NCBI **(14marks)**

5. List the BLAST flavours and describe their outputs (**15marks**)