



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA**  
**FACULTY OF SCIENCE**  
**2020\_2 EXAMINATION**

**BIO 316 – BIOINFOMATICS**

**Time: 1½ Hours**

**Credit Unit: 1**

**Instruction: Answer 4 questions only. QUESTION 1 is compulsory.**

- 1a Define the term Bioinformatics (2mrks)
- 1b Mention the details of the publication that laid the foundation for the resources for entire biotechnology community in computational biology. (4mrks)
- 1c State the type of collaboration project between Swiss-Prot and EMBL (European groups) (8mrks)
- 1d Give the contributions of the following scientists in the field of Bioinformatics (11 mrks)
- i. V.M.Ingram
  - ii. Zuckerkandl and Pauling
  - iii. Amos Bairoch
- 2a Given the following databases/resources; GenBank, ExpASy, Sanger Center, OMIM and PubMed. Correctly write their search sites and type of information they provide in a tabular form (13mrks)
- 2b State the limitation of primary database (2mrks)
- 3a Discuss the term Bootstrap? (8 mrks)
- 3b Mention two (2) database for reporting error and their websites (3 mrks)
- 3c Differentiate between BLAST and Dynamic programming (4mrks)
- 4a What is FASTA Format? (5mrks)
- b Describe the steps in Phylogenetic Analysis (10 mrks)
- 5a What is the purpose of establishing Data Library? (3 mrks)
- b Discuss the following databases (12 mrks)
- i. Primary database
  - ii. Secondary database
  - iii. Composite database