



NATIONAL OPEN UNIVERSITY OF NIGERIA
UNIVERSITY VILLAGE, PLOT 91 CADASTRAL ZONE, NNAMDI AZIKIWE
EXPRESS WAY, JABI - ABUJA.
FACULTY OF SCIENCE
Department of Biological Sciences
2025_2 EXAMINATIONS.

BIO 316: Bioinformatics

TIME: 1½ Hours

CREDIT UNITS: 1

INSTRUCTION: Attempt THREE (3) questions in all. Question 1 is compulsory

- 1a. (i). Outline five (5) applications of bioinformatics **(5 marks)**
(ii). Mention seven (7) fields of bioinformatics **(7 marks)**
- 1b. (i). List any five (5) scripting language **(5 marks)**
(ii). Enumerate four (4) applications of scripting language **(4 marks)**
- 1c. (i). Write notes on structural databases that involve only protein databases **(6 marks)**
(ii). List and explain the parts of flatfiles **(3 marks)**

- 2a. Explain the four (4) bioinformatics task tools **(10 marks)**
- 2b. Depending on the type of sequences to compare, what are the different BLAST programs? **(5 marks)**
- 2c. Explain the application of JAVA in Bioinformatics **(5 marks)**

- 3a. (i). Write notes on the two categories of database analysis **(6 marks)**
(ii). Itemize the essence of database organization **(3 marks)**
- 3b. Briefly explain the web search tool 'PubMed' **(5 marks)**
- 3c. Itemize six (6) sequence retrieval tools **(6 marks)**

- 4a. Explain the working of FASTA and BLAST **(10 marks)**
- 4b. Explain five (5) purposes of BLAST **(10 marks)**

- 5a. Explain the two (2) types of sequence analysis **(10 marks)**
- 5b. In a tabular form, give five (5) differences between global and local sequence alignment **(10 marks)**