****

**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**National Open University Of Nigeria**

**Plot 91, Cadastral Zone, NnamdiAzikiwe Expressway, Jabi - Abuja**

 **Faculty of Sciences**

**NOVEMBER 2018\_2 EXAMINATION**

**COURSE CODE: BIO 316**

**COURSE TITLE: BIOINFORMATICS**

**TIME ALLOWED: 2 HOURS**

**INSTRUCTION: ANSWER QUESTION 1 AND ANY OTHER THREE QUESTIONS**

1. Write short note on the following:
2. Clustering phylogenic analysis **(7marks)**
3. Cladistic phylogenic analysis **(8marks)**

c. List the BLAST flavours and describe their outputs. **(10marks)**

2a. What is sequence alignment? **(2 marks)**

1. Name the types of methods of a nucleotide alignments **(4 marks)**
2. Define or give meaning to the following bioinformatics terms **(9 marks)**

 i) Accession Number

ii) BLAST

iii) BLOSUM

iv) CLUSTALW.

3a. What is database? **(6marks)**

b. Mention the classification of database based on the level of processing information **(3marks)**

c. Explain nucleotide Sequence database **(6marks)**

4a. Define NCBI **(1mark)**

1. Describe the major features of NCBI **(14mark)**

5a. Define Bioinformatics. **2marks**

b. State the aims of bioinformatics. **4marks**

c. Outline the historical development of bioinformatics. **9marks**