



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

BIO 404: Systematic Biology

Time: 2½ Hours

Credit Units: 3

Instruction: Attempt FOUR questions only. QUESTION 1 is compulsory.

- 1a. Define the term 'Biosystematics' **(2 marks)**
1b. State the four (4) phases of development in plant taxonomy **(4 marks)**
1c. Differentiate between Species and Intraspecific Taxa **(4marks)**
1d. Outline four (4) vegetative and two (2) reproductive characters used as sources of taxonomic evidence (6marks)
1e. Write notes on the following
 i. System of classification **(3 marks)**
 ii. Source of data **(3 marks)**
 iii. Test of characters **(3 marks)**
- Total Marks = (25 marks)**
- 2a. Enumerate the functions of a herbarium **(5 marks)**
 b. Discuss the three major sources of variation. **(10marks)**
- Total Marks = (15 marks)**
- 3a. Highlight the three (3) main types of natural selection. **(3 marks)**
3b. What is Natural Hybridization? **(3 marks)**
3c. State nine (9) general instructions for herbarium users **(9marks)**
- Total Marks = (15 marks)**
- 4a. Give an account of classification according to Albert Magus. **(5marks)**
4b. Explain the composition of scientific names. **(5 marks)**
4c. Mention five (5) orthography of names as epithets. **(5 marks)**
- Total Marks = (15 marks)**
- 5a. What is the difference between Parallelism and Convergence in taxonomy? **(5 marks)**
5b. Discuss extensively the plant chemotaxonomy? **(10 marks)**
- Total Marks = (15 marks)**
- 6a. State three (3) main causes of name change **(3 marks)**
6b. Describe in detail cytology as a source of taxonomic evidence **(5marks)**
6c. Briefly explain the term 'Paleobotany' **(7marks)**
- Total Marks = (15 marks)**