



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)**