**National Open University of Nigeria**
**Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja**
**Faculty of Science**
**Department of Pure and Applied Sciences**
**2021_1 EXAMINATION** 1234

**COURSE CODE: BIO404**
**COURSE TITLE: SYSTEMATIC BIOLOGY**
**CREDIT: 3 Units**
**TIME ALLOWED: 21/2 Hours**
**INTRUCTION: Answer Question ONE (1) and any other FOUR (4) Questions**

1a. Define taxonomic characters and give two (2) examples of them. (3 marks)
b. Write short notes on the following types of symmetry of the pollens:
i. Bilateral symmetry (2 marks)
ii. Radial symmetry (2 marks)
c. Discuss the major achievements of William Roxburgh (6 marks)
d. List and explain any six (6) sources of taxonomic evidence (9 marks)

2a. Explain what you understand by Gene mutation (2 marks)
b. Give a comprehensive description of the following types of selections:
i. Environmental selection (5 marks)
ii. Disruptive selection (5 marks)

3a. Define Hetero polar pollen grain (2 marks)
b. In a tabular form, distinguish between Palynology and Paleobotany (2 marks)
c. Write concisely on the following:
i. Cladistics (4 marks)
ii. Numerical phenetics (4 marks)

4a. What do you understand by folk taxonomy? (2 marks)
b. Chemotaxonomy is an important aspect of Plant taxonomy. Discuss. (10 marks)

5. Discuss the different parts of a flower (12 marks)

6a. List the three Taxonomists involved in International Phylogenetic System (3 marks)
b. Outline the key points of Darwin's theory of evolution by Natural selection (4 marks)
c. Discuss the composition of scientific names (5 marks)