



THE OPEN UNIVERSITY OF SRI LANKA

B. Sc. / B. Ed. DEGREE PROGRAMME –LEVEL 04

BOU2102/BYU4302/BYE4302 - SYSTEMATICS OF HIGHER PLANTS AND ANIMALS

FINAL EXAMINATION- 2021/2022

DURATION: TWO (02) HOURS

Date: 12<sup>th</sup> October 2022

Time: 9.30am-11.30am

This paper consists of two parts; Part A (four questions) Part B (two questions).

You have to answer **only four (04)** questions, selecting **three (03)** questions from **Part A** and only **one (01)** question from **Part B**.

Part A and B should be answered in separate answer books and attached together.

### PART A

01. i) What is a taxonomic character?

ii) Briefly explain two major types of character weighting methods used in plant taxonomy.

ii) Assuming that you have been given a leaf sample of a plant belonging to the genus *Ixora*, briefly write the steps you would follow to use that plant material in inferring plant phylogenetic relationships of the genus.

02. Write short notes on any **three (03)** of the following.

- i) Ethics in writing taxonomic papers
- ii) Contribution of Linnaeus to plant systematics
- iii) Utility of morphological characters in plant taxonomy
- iv) Natural classification system of plants

03. Nomenclature is one of the major attributes in plant taxonomy.

- i) What is meant by plant nomenclature?
- ii) "Use of vernacular names in plants has both advantages and disadvantages". Using examples briefly discuss the above statement.
- iii) Write an account on the taxonomic literature used in plant nomenclature.

04. "Different types of secondary metabolites present in plants play a wide rôle in inferring plant phylogenetic relationships". With cited examples, briefly discuss this statement.

### **PART B**

05. i) What is meant by "Classification of animals".
- ii) Classification methods have been changed over the history of time" Discuss this statement.
06. i) What is Numerical Taxonomy?
- ii) Briefly explain the stepwise procedure in operating the Numerical Taxonomy.
- iii) What is Jaccard's Coefficient?
- iv) Calculate the Jaccard's Coefficient for the following pair of taxonomic units.

A	B
+	+
-	-
+	-
+	+
-	+
NC	+
+	+
+	-
-	NC
+	+
-	+

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