

THE OPEN UNIVERSITY OF SRI LANKA  
 FACULTY OF NATURAL SCIENCES  
 B.Sc./ B. Ed. DEGREE PROGRAMME - LEVEL 04  
 BOU 2102 / BOE 4102 –SYSTEMATICS OF HIGHER PLANTS AND ANIMALS  
 FINAL EXAMINATION - 2016/2017



DURATION – TWO (02) HOURS

Date: 21<sup>st</sup> July 2017

Time: 9.30–11.30am

Answer any four (04) questions.

If you are answering the question from Part B, Answer should be written in a separate Answer Book.

PART A

01. i) “Scientists engaged in systematics of biology always face a challenge of constant re-evaluation of classification systems”. Justify this statement.
- ii) What are the major ethical responsibilities of systematists when re-evaluating classification systems / updating classification systems?
02. i) Briefly explain the essential requirements for the correct identification of a plant specimen.
- ii) Discuss the importance of botanical gardens and herbaria in identification of unknown plant specimens.
03. Write short notes on any **three (03)** of the following.
- Sources of taxonomic evidences.
  - Identification keys.
  - Flora of Sri Lanka (Ceylon) during British occupation.
  - Principles of International Code of Botanical Nomenclature (ICBN).
04. i) Briefly explain the ways of presenting phylogenetic relationships among plants and the major types of presentation methods being used commonly and widely.
- ii) List the major steps involved in phylogenetics.
05. i.) Briefly explain the major properties of protein molecules that facilitate the taxonomic studies.
- ii.) State the major categories of proteins that possess diagnostic importance in systematics?
- iii.) Briefly explain the major techniques used in obtaining taxonomic evidences from plant proteins.

PART B

06. i) State 04 importance of biological classification
- ii) Distinguish between phenetic principle of classification and phylogenetic principle of classification
- iii) Briefly explain by citing examples, what is meant by evolutionary convergence