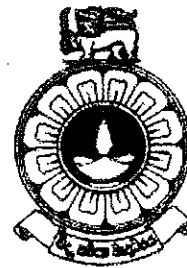


**The Open University of Sri Lanka**  
**Faculty of Natural Sciences**  
**B.Sc/ B.Ed Degree Programme**



<b>Department</b>	: Botany
<b>Level</b>	: Level 04
<b>Name of the Examination</b>	: Final Examination
<b>Course Title and - Code</b>	: BOU2102/BYU4302/BYE4302 Systematics of Higher Plants and Animals
<b>Academic Year</b>	: 2020/2021
<b>Date</b>	: 7 <sup>th</sup> December 2021
<b>Time</b>	: 9.30 am to 11.30 am

**General Instructions**

1. Read all instructions carefully before answering the questions.
  2. This question paper consists of **six (06)** questions in **three (03)** pages and two parts; Part A (four questions) Part B (two questions).
  3. Answer **four (04)** questions, **selecting three (03)** questions from **Part A** and only **one (01)** question from **Part B**. All questions carry equal marks.
  4. Answer for each question should commence from a new page.
  5. Draw fully labelled diagrams where necessary.
  6. Involvement in any activity that is considered as an exam offense will lead to punishment.
  7. Use blue or black ink to answer the questions.
  8. Circle the number of the questions you answered in the front cover of your answer script.
  9. Clearly state your index number in your answer script.
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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.

### PART A

01. i) What is a Botanic garden?  
ii) Briefly explain the different sections you could observe in a botanic garden.  
ii) Discuss the functions and services offered by the Botanic gardens to the field of plant taxonomy.
02. Write short notes on any **three (03)** of the following.  
i) Ethics in conducting plant taxonomic research  
ii) Alkaloids used in plant systematics  
iii) Genetic variability in plants  
iv) The importance of Xylaria in plant taxonomy
03. "Plant proteins play a wide role in interpreting plant phylogenetic relationships". With cited examples, briefly discuss this statement.
04. Plant classification and classification systems play a wide role in the field of plant systematics.  
i) What is meant by plant classification systems?  
ii) State four different types of widely used botanical classification systems.  
iii) More recent and advanced plant classification systems are based on the DNA sequence data. Briefly discuss this statement highlighting the major features of those systems you have mentioned.

**PART B**

05. (i) What is meant by biological classification?
- (ii) Briefly explain the terms "Taxon", "Taxonomic Category" and indicate the difference between the given two terms.
- (iii) Distinguish between phenetic principles of classification and phylogenetic principles of classification.
06. (i) Name the code of nomenclature for animals.
- (ii) Give brief description of the above code of nomenclature of animals.
- (iii) Give **one (01)** example for each of the followings and explain as much as possible.
- (a) Changing names
  - (b) By changing the generic name
  - (c) Tautonym

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