



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- 2019/2020
DURATION: TWO (02) HOURS

Date: 23rd December 2019

Time: 9.30am-11.30am

This paper consists of PART A and B with six (06) questions.

Answer **any four (04)** questions.

PART A

01. i) What is a herbarium?
ii) Differentiate between botanic gardens and herbaria.
ii) Discuss the services offered by the National Herbarium in Sri Lanka in the field of plant taxonomy.
02. Write short notes on any **three (03)** of the following.
i) Natural classification systems of plants
ii) Anatomical characters used in plant systematics
iii) Ethics in writing taxonomic papers
iv) The role of Botanic Gardens as centers for conservation
03. "Always morphology alone does not represent the true phylogenetic relationships among taxa, hence need to get support with DNA data as well". Providing examples discuss this statement.
04. Accurate identification and nomenclature are two fundamental roles in plant systematics.
i) What is meant by identification?
ii) What is the necessity of identifying plants?
iii) Write an account on the taxonomic literature used in plant identification and nomenclature.

05. Variation means the changes or differences in characteristics shown by organisms belonging to same population or species.
- i) List **three (03)** species concepts put forward when defining a species.
 - ii) Explain the factors result in the genetic variability in plant populations.
 - iii) Briefly discuss the reproductive isolation mechanisms observed in plants.

PART B

06. i) The Fundamental aim of the animal and plant nomenclatural code is to provide the maximum universality in the scientific names. Name the code of nomenclature of animals and plants.
- ii) Briefly explain by giving examples what is meant by vernacular names and write 03 disadvantages of using vernacular names.
 - iii) Describe the following scientific names as much as possible.
 - a) *Rattus rattus*
 - b) *Rana limnocharis* Wiegmann, 1835.
 - c) *Srilankamys ohiensis* (Phillips, 1729) Erxleben 1777
 - d) *Rana (Hapalpbathrathrachus) ceylanica*, Gunther, 1872
 - e) *Syzygium spathulata* Thw., Enum.Pl.Zeyl.118.1859.Type:C.P.1920 (PDA)

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