THE OPEN UNIVERSITY OF SRI LANKA

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

FINAL EXAMINATION – 2014/2015

BOU2102/BOE4102 – SYSTEMATICS OF HIGHER PLANTS AND ANIMALS

DURATION : TWO (02) HOURS

DATE : 22ⁿᵈ May 2015   **TIME : 9.30 – 11.30 a.m.**

Answer any <u>four (04)</u> questions.
Answers to the questions in Part A and Part B should be written in <u>separate answer books.</u>

<div align="center"><u>Part A</u></div>

01. Write an essay on history of the development of modern Systematics emphasizing the major periods of its development, citing the works and names of major contributors in the history of Systematics.

02. i) Briefly explain what is needed for identification of an unknown plant specimen.
    ii) "In practice, identification in systematic involves classification and nomenclature too". Discuss this statement.
    iii) Giving examples, differentiate between taxonomic characters and character states used in plant identification.

03. Write short notes on **any three (03)** of the following.
    i)   Differences between a botanic garden and a herbarium.
    ii)   Citation in naming plants
    iii) Differences between natural classification systems and phylogenetic classification systems of plants
    iv)   Flora of Sri Lanka before occupation by foreigners.

04. i) Flavonoids have been widely and extensively used in plant systematic studies. State the major groups of flavonoids found in plants, their main characters, and reasons for using these compounds in systematic studies.
    ii) . List the other major categories of secondary metabolites used in systematics other than flavonoids.
    iii) Briefly explain the analytical methods used in studying secondary metabolites and discuss the advantages and disadvantages of using these compounds in systematic studies.

05) Describe the important ethical issues in using a herbarium and ethics that should be followed in writing taxonomic papers.

<div align="center">**PART B**</div>

06) a. Write main differences between classification and identification (10 marks).
    b. Name the three current methods of classification (15 marks)
    c. Define the terms Homologous structures and Analogous structures used in modern classification methods (20marks)
    d. Citing examples describe how Homologous and Analogous characters are used in animal classification (55 marks)

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