



**THE OPEN UNIVERSITY OF SRI LANKA**  
**B.Sc. / B. Ed. DEGREE PROGRAMME - LEVEL 04**  
**BOU 2102 / BOE 4103 – SYSTEMATICS OF HIGHER PLANTS AND ANIMALS**  
**FINAL EXAMINATION – 2010/2011**

**DURATION – TWO (02) HOURS**

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**Date: 07<sup>th</sup> January 2011**

**Time: 9.30 – 11.30 am**

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

01. 'Systematics is a subject with never ending synthesis and with a multiple role in biology.' Explain.
  
02. Write short notes on **any two (02)** of the following.
  - a. Major contributions made by Linnaeus to plant taxonomy
  - b. Polyacrylamide gel electrophoresis (PAGE) using vertical slab gel system
  - c. Phylogenetic reconstruction (cladistic methodology)
  
03.
  - a. What is meant by speciation?
  - b. Explain the mechanisms through which plant speciation takes place in nature.
  
04.
  - a. Give reasons why flavonoids have been most widely and effectively used in taxonomy.
  - b. Describe an analytical method to compare flavonoid pigments for grouping plants.
  
05.
  - a. Differentiate between botanic gardens and herbaria.
  - b. Explain how a botanic garden performs its functions as a plant conservation centre.
  - c. What is the role played by a National herbarium in plant systematics?
  - d. Outline the major ethics you would follow in making use of a herbarium.
  
06. Briefly discuss the development of animal classification systems.