



**THE OPEN UNIVERSITY OF SRI LANKA**  
**B.Sc. / B. Ed. DEGREE PROGRAMME – LEVEL 4**  
**BOU 2102 / BOE 4102 – SYSTEMATICS OF HIGHER PLANTS AND ANIMALS**  
**FINAL EXAMINATION 2011/ 2012**

**DURATION – TWO (02) HOURS**

**Date: 13<sup>th</sup> January 2012**

**Time: 1.30 – 3.30 pm**

**Answer any four (04) questions from Part A and B.**

**If you choose Question No. 6 (Part B), the answer should be written in the additional answer book provided.**

**Part A**

01.
  - a. Outline the objectives of systematics of organisms.
  - b. Summarize the major ethical responsibilities of a plant systematist in achieving those objectives.
  
02.
  - a. What is meant by phenotypic variation in plants?
  - b. Summarize the genetic factors which are responsible in producing and maintaining variability in plant populations?
  - c. Plant systematists are highly interested in studying phenotypic plasticity. Give reasons.
  
03. Write short notes on any three (03) of the following.
  - a. Doctrines of angiosperm phylogeny
  - b. Use of thin layer chromatography in grouping plants
  - c. Herbals and herbalists
  - d. Natural classification systems of plants
  
04.
  - a. Citing examples, explain what is meant by a unit character used in taxonomy?
  - b. Outline the major steps that you would follow when using characters in a taxonomic study.
  - c. Discuss the importance of karyology in systematics.
  
05.
  - a. What are the properties of DNA that have made it a useful taxonomic tool?
  - b. Outline the basic steps in studying DNA in plants for taxonomic purposes.

**Part B**

06.
  - a. What are the uses of classifying organisms?
  - b. Briefly explain why animal classification progressed much slowly when compared to plant classification, up to the end of 18<sup>th</sup> century?
  - c. Summarise the major characteristics of the five (05) kingdoms proposed by Whittaker (1969) in his system of classification.

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