THE OPEN UNIVERSITY OF SRI LANKA
B.Sc. / B. Ed. DEGREE PROGRAMME - LEVEL 04 - 2010/2011
BOU 2102 / BOE 4103
SYSTEMATICS OF HIGHER PLANTS AND ANIMALS
ASSESSMENT TEST (NO BOOK TEST)

DURATION – ONE (01) HOUR

Reg. No. ....

Date: 22nd October 2010   Time: 4.00 – 5.00 pm

Answer All Questions.
Questions should be answered on the question paper itself.

PART A (30 minutes)

01. a.   Defining 'species' still remains controversial. Give **two (02)** major reasons.

i..

ii...

b.   What are the **three (03)** specific characteristics of a biological species?

i..

ii...

iii..

c.   Reproductive isolation is the first step in the speciation process. What are the **two (02)** major mechanisms through which reproductive isolation occurs?

i..

ii...

02. a.   Give **four (04)** ethical responsibilities one should take when handling herbarium specimens.

i..

ii...

iii..

iv..

1

b. Suppose you have carried out a taxonomic research and published your findings in a refereed journal. List your major responsibilities in maintaining your collection of studied specimens?

i...

ii..

iii...

03.   a. What are isozymes?

....

b. Name a technique you have learnt to group plants based on isozymes present.

....

c. What is the basic principle behind the method you mentioned?

....

....

....

....

....

04.   a. Give **two (02)** major properties of plant proteins that are used to study the taxonomic relationships among plants.

i...

ii..

b. Give **two (02)** main uses of DNA data in applied plant taxonomy.

i...

ii..

c. List the major properties of DNA which have made it a useful taxonomic tool?

i..

ii..

iii..

05. a. Name an important group of secondary metabolites used in plant taxonomy?

....

b. Give **three (03)** major reasons for its wide usage in plant identification.

i..

ii..

iii..

c. Name a technique used to group plants based on the presence of secondary metabolite you mentioned.

....

06. Differentiate between parallelism and convergence

Parallelism	Convergence
....	....
....	....
....	....

07. a. What is meant by Cladistics?

....

b. What is the assumption on which cladistic analysis is primarily based?

....

....

08. List the logical steps involved in Numerical Taxonomy.

i...

ii...

iii...

iv...

v...

09. a. What is a unit character?

....

b. Taxonomists prefer anatomical characters of plants as taxonomic evidence? Give **three (03)** reasons.

i...

ii...

iii...

c. Give **two (02)** advantages of using karyological evidence in plant taxonomy.

i...

ii...

d. Name the **three (03)** types of chromosomal information of taxonomic value?

i...

ii...

iii...