

Bago University
Department of Botany
First Semester Examination, March, 2019

Forth Year
Botany Specialization
Answer All Questions

Bot.4101
Plant Systematics
Time allowed: (3) Hours

I. Determine whether each statement is TRUE or FALSE.

(10 marks)

1. Systematics is the science of organismal diversity.
2. A polyphyletic group is one consisting of a common ancestor.
3. The vascular plants are inclusive of the non seed plants.
4. A flower is a highly modified shoot bearing specialized appendages.
5. Monocotyledons have been descended from dicotyledonous ancestors.
6. Pollen dimorphism is associated with homostyly.
7. Phenolic constituents are present in the leaves, flowers and seeds.
8. A separate code is utilized for wild plants.
9. The scientific names of species are binomials.
10. A neotype is a specimen derived from an original collection.

II. Write correct word to complete the following sentences.

(10 marks)

1. Phylogenetic studies deal with groups ranging from ----- to species.
2. The lines of a cladogram represent ----- or clades.
3. A population is a group of individuals of the same -----.
4. Morphological characters are ----- of external form or appearance.
5. The sizes of stomatal cells indicate the degree of -----.
6. The sieve cells become specialized by ----- shortening.
7. Frost resistance is increased in ----- compared with diploids.
8. Xanthine is a ubiquitous product of nuclear-protein -----.
9. Cladograms represent an estimate of the pattern of ----- descent.
10. In Moraceae, wood anatomy and pollen ----- are highly specialized.

III. Answer all questions.

(10 marks)

1. What is paraphyletic group?
2. Enumerate the two folds habit of various life forms.
3. Define stenopalynous and eurypalynous.
4. List the two importance ways of chromosome.
5. Describe the position of ranks with example.

IV. Answer all questions.

(20 marks)

1. How do you understand about speciation?
2. Give short notes on seeds and fruits of reproductive characters.
3. Mention the advantage and disadvantages of artificial classification.
4. Clarify the Priority of publication.

V. Answer any three questions.

(30 marks)

1. Explain how to evolve chloroplast.
2. Give a detail account on habit of vegetative characters.
3. Describe the role of comparative anatomy in taxonomy.
4. Discuss the data of post-Darwinian systematics.
5. Explain about the Principles of nomenclature.