

Nayagarh Autonomous college, Nayagarh

CC-10:Plant systematics

Unit-1 and Unit-2

1. Answer the following questions: (1x 8 =8)

- i) Define Taxonomy.
- ii) The name systematic was first appeared in the famous book of Linnaeus -----
-----.
- iii) Define systematics.
- iv) Write the names of 4 principles of systematics.
- v) What are the 3 main types of classification?
- vi) Define herbarium
- vii)What is the size of herbarium sheet?
- viii)Write down the ranks of taxonomic hierarchy in order.

Group-B

2. Answer the following questions: (1.5x 8 =12)

- i) What is species?
- ii) What is Taxonomic Hierarchy?
- iii) What is virtual herbarium?
- iv) What is E-flora?
- v) What is a monograph?
- vi) Write the name of two journals dealing with taxonomy.
- vii)What is family?
- viii)What is a type genus?

Group-C

3. Answer the following questions: (2x 8 =16)

- i) What is biological species concept?
- ii) What is evolutionary species concept?
- iii) What is taxonomic species concept?
- iv) Write the principles of ICN?
- v) What is typification?
- vi) What is Author Citation?
- vii) Describe rules in ICN for naming of hybrids.

Group-D

4. Answer the following questions: (6x4)

- (i) Discuss the different methods applied for preparation of herbarium with reference to conifers, succulents and water plants?
- ii) Describe the different types of taxonomic keys?
- iii) Give an account of Botanical Nomenclature?
- iv) What are the rules for Valid Publication?

Unit-3

1. Fill up the blanks (1x8=8)

- Q1. a) Study of palynomorphs is called -----.
- b) P.K.K.Nair is considered as father of Indian -----
- c) DNA barcoding allows the resolution of ----- from higher to lower taxonomic levels.
- d) ----- is known as father of Botany.
- e) Casper Bauhin wrote ----- Book.
- f) Tournefort is the first to make a clear distinction between genes and -----.

g) Adansonian taxonomy is otherwise called -----.

h) Sexual system of classification is known for -----system.

Q2. Answer the following in 1 to 2 sentences(1.5x8=12)

a) What is the role of molecular data in taxonomy.

b) Why Bentham and Hooker's system is called natural system of classification.

c) State principle of artificial system of classification.

d) What is phylogenetic system of classification.

e) Define numerical taxonomy.

f) Palynology is one of the best evidence to taxonomic relationship, explain.

g) What is APGIII classification.

h) Define plant systematics.

Q3. Write short notes within 75 words(2x8=16)

a) Types of pollen . b) Recent trends in taxonomy. c) Contribution of Takhtajan. d) Bessey's classification.

e) Phytochemistry in relation to taxonomy.

f) phylogeny. g) Hutchinson's system's

merit. h) Cronquist's contribution.

4. Answer the following within 500 words)(6x4=24)

(1) Plant systematics as an inter disciplinary science, discuss.

(2) Describe Bentham and Hooker's system of classification and state its merit and demerits?

(3) Give an account of Hutchinson's system of classification and its merits and demerits?

(4) Give a comparison between natural and phylogenetic system of Classification with example?

Unit-4

1.Fill up the blanks(1x8=8)

Q1. a) Study of the history and relationship among a set of organisms called-----
-----.

b)Evolutionary tree depicts-----.

c)Homology is the occurrence of ----- organ in different organisms under every variety of forms and functions.

d)If the character shared by two organisms is not traced to a common ancestor then the similarities can be result of -----.

e). Monophyle is derived from a -----ancestor.

f). A tree like network that express such ancestor descendent relationship called-----.

g). Ixora species belongs to ----- family.

h). Barleria prionitis plant belongs to ----- family.

Q2. Answer the following within 1 to 2 sentences. 1.5x8=12

a).What is cladogram ?

b). Explain phylogenetic tree.

c). Define clade.

d). What is convergence?

e). What is homology?

f). Explain out group.

g).Write identifying character of family poaceae.

h) Write identifying character of family Lamiaceae.

Q3. Write short notes within 75 words. 2x8=16

- a) Parallelism b) Convergence c). Polyphyly d). Analogy e). Paraphyly
f). Lineage g). Phylogram h). What is sister group and out group?

4. Answer the following within 500 words.

(1) Give the concept of phylogeny with reference to monophyly, paraphyly and Polyphyly?

(2) Describe the evolutionary trends in Angiosperms?

(3) Describe the family Acanthaceae in botanical terms?