

**Telangana University**  
**Department of Botany**  
**Question Bank – Internal Assessment - 1**  
**Paper –I Taxonomy of Angiosperms, Medicinal Botany and Ethnobotany**  
**Semester-II (Unit I and II)**

1. Hutchinsons System somewhat like that of. (a)  
a. Bessy System b. Bentham system c. Cronquist system d. Takhtajan system. e. All of these.
2. John Hutchinson is a british and formarly keeper of. (a)  
a. The museum of Botany of Royal Botanical Garden b. Royal Chemical laboratory  
c. The museum of Zoology of Royal Zoological Garden d. Royal Geological Garden e. None of these.
3. In Hutchinsons system of Classification Lignosae begins with the family. (d)  
a. Verbenaceae b. Asteraceae c. Malvaceae d. Magnoliaceae e. Apocynaceae.
4. The Most primitive living family of Angiosperms is. (d)  
a. Verbenaceae b. Asteraceae c. Malvaceae d. Magnoliaceae e. Apocynaceae.
5. The Most Advanced living family of Angiosperms is. (a)  
a. Verbanaceae b. Asteraceae c. Malvaceae d. Magnoliaceae e. Apocynaceae.
6. In Hutchinsons system of Classification Herbaceae ends with the family. (b)  
a. Verbenaceae b. Labiatae c. Malvaceae d. Magnoliaceae e. Apocynaceae.
7. Hutchinson system of Classification is. (c)  
a. Artificial System b. Natural system c. Phylogenetic system  
d. Artificial and Natural system e. None of these.
8. In Hutchinson system of Classification. (b)  
a. The dicots follow the monocots b. the monocots follow the dicots.  
c. The monocots follow the Pteridosperms. d. the dicots follow the Algae. e. None of these.
9. A. L. Takhtajan belongs to. (d)  
a. South Africa b. China c. India d. England e. Russia
10. 12<sup>th</sup> International Botanical Congress President is. (b)  
a. Cronquist b. Takhtajan c. Jeffery d. Hutchinson e. Bessy.
11. "Die evolution der Angiosperms" written by. (d)  
a. Cronquist b. Hutchinson c. Jeffery d. Takhtajan e. Bessy.
12. "Systemanact phylogeni magnolio or System and Phylogeny of Magnoliophyton written by (d)  
a. Cronquist b. Hutchinson c. Jeffery d. Takhtajan e. Bessy.
13. In Takhtajan Classification Angiosperms are termed as. (a)  
a. Magnoliophyta b. Bryophyta c. Gymnophyta d. Pteridophyta e. None of these.
14. Arthur Cronquist senior curator of this garden (b)  
a. Australian Botanical Garden b. New York Botanical Garden c. Indian Botanical Garden  
e. Paris Botanical Garden e. None of these.
15. Cronquist adjunct was Professor of . (c)  
a. Osmania University b. Oxford University c. Columbia University d. Madras University e. None of these.
16. Cronquist considered the seed ferns as probable ancestors of. (d)  
a. Gymnosperms b. Algae c. Pteridophyta d. Angiosperms e. None of these.
17. In Cronquist Classification Class Liliatae includes. (a)  
a. 4 Sub Classes b. 3 Sub Classes c. 5 Sub classes d. 6 Sub classes e. 7 Sub classes.
18. In Cronquist Classification Class Magnoliophytae includes. (d)  
a. 4 Sub Classes b. 3 Sub Classes c. 5 Sub classes d. 6 Sub classes e. 7 Sub classes.
19. Most of the Taxonomic evidence is generally drawn from. (b)  
a. Anatomical feature b. Morphological feature c. Chemical feature d. Cytological feature e. None of these.
20. Burkill and Prain have used structure and morphology of root tubers in. (a)  
a. *Dioscorea* b. *Asparagas* c. *Ipomoea* d. *Dalbergia* e. All of these.
21. *Scilleae* genera is belongs to. (e)  
a. Malvaceae b. Cucurbitaceae c. Fabaceae d. Solanaceae e. Liliaceae

22. Pant has described numerous patterns in the venation of. (a)  
a. Glosopteridaceae b. Cucurbitaceae c. Fabaceae d. Solanaceae e. Liliaceae
23. Guard cells are dumbbell shaped in members of. (b)  
a. Liliaceae b. Poaceae c. Verbenaceae d. Malvaceae e. Solanaceae
24. 'Haplocheilic' means. (a)  
a. Guard cells and Subsidiary cells both developed from the epidermal cells  
b. Guard cells and subsidiary cells both developed from sub epidermal cells  
c. Guard cells developed from sub epidermal cells d. Subsidiary cells developed from sub epidermal cells.  
e. None of these.
25. 'Syndetocheilic' means. (b)  
a. Guard cells and Subsidiary cells both developed from the epidermal cells  
b. Guard cells developed from epidermal cell and subsidiary cells developed from sub epidermal cells  
c. Guard cells developed from sub epidermal cells d. Subsidiary cells developed from epidermal cells.  
e. None of these.
26. In Dicotyledons the guard cells are. (b)  
a)Kidney shaped b)Dumbbell shaped c)Round d)Rectangular shaped e) None of these.
27. In Monocotyledons the guard cells are (a)  
a)Kidney shaped b)Dumbbell shaped c)Round d)Rectangular shaped e) None of these.
28. Epidermal out growths are. (c)  
a. Nectaries b. Stomata c. Trichomes d. Stomata and Trichomes e. None of these.
29. In *Parthenium argentatum* the trichomes are. (d)  
a. S- shaped b. L -shaped c. C -shaped d. T -shaped e. None of these.
30. Ramayya has provided a generic key for the Indian members of Compositae on the basis of his critical studies on. (c)  
a. Nectaries b. Stomata c. Trichomes d. Cuticle e. None of these.
31. *Phyla nodiflora* belongs to the family. (c)  
a. Malvaceae b. Cucurbitaceae c. Verbenaceae d. Solanaceae e. Liliaceae
32. *Digitalis purpurea* L. belongs to the family. (e)  
a. Malvaceae b. Cucurbitaceae c. Verbenaceae d. Solanaceae e. Scrophulariaceae.
33. Benson has pointed out the taxonomic significance of nectar scales in the family. (a)  
a. Ranunculaceae b. Cucurbitaceae c. Verbenaceae d. Solanaceae e. Liliaceae.
34. Classification based on chromosome study of organism is. (d)  
a. Experimental taxonomy b. Biochemical taxonomy c. Numerical taxonomy d. Karyo taxonomy e. None of these.
35. Karyotype is "The phenotypic appearance of the somatic chromosomes" stated by. (a)  
a. Levitsky b. Hickey c. Doyle d. Ehrendorfer e. None of these.
36. Idiogram is also used in a somewhat similar sense the term of . (a)  
a. Karyotype b. Biochemical c. Numerical d. Experimental e. None of these.
37. Chromosome number in somatic cells of *Haplopappus gracilis* is. (e)  
a. One b. Hundred c. Thousand d. Six e. Four
38. Chromosome number in *Ophioglossum* species. (a)  
a. About 1240 b. About 2400 c. 4 d. 100 e. 10
39. Chromosome number in *Pinus* Genera . (c)  
a. n=24 b. n=100 c. n=12 d. n=2 e. n=200
40. Genera *Chlorophyta* belongs to the family. (a)  
a. Liliaceae b. Cucurbitaceae c. Verbenaceae d. Solanaceae e. Scrophulariaceae.
41. Chromosome number in *Brassica oleracea*. (b)  
a. 2n=24 b. 2n=18 c. 2n=12 d. 2n=20 e. 2n=200
42. Chromosome number in *Raphanus sativus* (b)  
a. 2n=24 b. 2n=18 c. 2n=12 d. 2n=20 e. 2n=200
43. "A Discontinuous chromosomal change with a genetic effect" is a mutation these words were defined by. (a)  
a) Mayr b)Stebbins c)Stebbins d)Baker e)Valentine

44. Herbarium number at Royal Botanical Gardens, Kew is. (a)  
a) over 6,000,000 b) 4,000,000 c) 2,000,000 d) 50,000 e) 1,00,000
45. This Chemical using for herbarium poisoning. (e)  
a) KOH b) H<sub>2</sub>O c) HCL d) H<sub>2</sub>SO<sub>4</sub> e) HgCl<sub>2</sub>
46. Herbarium number at Central National Herbarium, Calcutta is. (c)  
a) over 6,000,000 b) 4,000,000 c) 2,000,000 d) 50,000 e) 1,00,000
47. Royal Botanical Garden was founded in. (a)  
a) 1670 b) 1780 c) 1820 d) 1982 e) 1999
48. The Indian Botanical Garden, Calcutta was founded in. (d)  
a) 1877 b) 1987 c) 1898 d) 1787 e) 1982
49. Oxford University Garden belongs to this country. (e)  
a) China b) India c) USA d) France e) Britain.
50. Primary function of Herbarium is. (a)  
a) Alpha taxonomic research b) Beta taxonomic research c) Gamma taxonomic research  
d) Omega taxonomic research e) All of these.
51. The 'Hanging gardens' belong to. (d)  
a) Rome b) Egypt c) China d) Babylon e) Italy
52. The International Association of Botanical Gardens was established in. (b)  
a) 1877 b) 1962 c) 1898 d) 1787 e) 1982
53. 10<sup>th</sup> International Botanical Congress was held at (e)  
a) Tokyo b) Beijing c) New York d) London e) Edinburgh.
54. Herbarium techniques are. (e)  
a) Collection and Drying b) Poisoning c) mounting and stitching d) Labelling and deposition e) All of these.
55. The European continent Botanical gardens are. (e)  
a) Padua Gardens b) Pisa c) Palermo d) Jardin de Jussieu e) All of these.
56. The National herbarium in our country is located at (b)  
a. Bombay b. Calcutta c. Chennai d. Delhi e. Orissa
57. The original specimen submitted by the author himself is termed as (a)  
a. Holotype b. Paratype c. Lectotype d. Isotype e. All of these
58. According to botanical nomenclature which is not allowed (c)  
a. Synonyms b. Antonyms c. Tautonyms d. Isonyms e. None of these
59. Besides nomenclature of plants in wild, ICBN also gives binomial names for (a)  
a. Bacteria and fungus b. Fungus c. Fungus and cultivated plants d. Cultivated plants e. All of these
60. A specimen or element selected by a competent worker from the original material studied by the author to serve as a substitute for the holotype if the latter was not designated in the original publication or is lost or destroyed (a)  
a. Lectotype b. Neotype c. Isotype d. Paratype e. Ecotype
61. Different hybrid forms of the same parentage are designated as (b)  
a. Apomicts b. Nothomorphs c. Race d. Variety e. All of these
62. The book written by Benthem and Hooker (a)  
a. Genera plantarum b. Species plantarum c. Flora d. Biodiversity e. None of these
63. Europea is a (a)  
a. Continental flora b. Regional flora c. Research flora d. field flora e. None of these
64. Arboretum is a (a)  
a. garden where trees are grown b. garden where orchids are grown c. garden where conifers are grown d. garden where herbs are grown e. All of these
65. Royal Botanical Garden is at (a)  
a. Scotland b. Netherlands c. Italy d. U.S.A. e. Iran
66. Binomial nomenclature was proposed by (c)  
a. Hugo-Devries b. William Harvey c. Carl-Linnaeus d. Benthem and Hooker e. None of these
67. Most of the plant names are derived from (a)

a. Latin    b. German    c. English    d. Telugu    e. Sanskrit

68. Basic unit of classification is (a)  
a. Species    b. Genus    c. Family    d. Class    e. Order

69. Father of taxonomic botany is (d)  
a. Theophrastus    b. A.P. de.Condolle    c. John Ray    d. Carolus Linnaeus    e. Engler and Prantl

70. The Institute which explores vegetation of India (d)  
a. N.G.R.I    b. N.B.R.I    c. C.S.I.R.    d. B.S.I    e. I.A.R.I

71. Father of Indian Botany (a)  
a. William Roxburgh    b. Aderson    c. George King    d. David    e. Griffith

72. The container used to preserve fresh specimens is called as (a)  
a. Vasculum    b. Bio-sheet    c. Vesiculum    d Bio-plate    e. None of these

73. Standard size of herbarium sheet is (a)  
a. 28.75by 41.25cm    b.38.75 by 41.75 cm    c. 26.75 by 41.25cm    d. 32.50 by 25.75cm    e. 29.75 by 42.25cm

74. *Sida cordifolia* L. belongs to the family (b)  
a. Asteraceae    b. Malvaceae    c. Magnoliaceae    d. Cucurbitaceae    e. Palmae

75. First I.B.C. was held at (a)  
a. Paris    b. Tokyo    c. China    d. England    e. Newzealand

76. 16<sup>th</sup> I.B. C was held at (b)  
a. U.S.S.R    b. U.S.A    c. Africa    d. Japan    e. India

77. The essential features of Berlin Code are (e)  
a. Preamble    b. Principles    c. Rules and Recommendations  
d. Provision for modification of the code    e. All of these

78. The Division I deals with (a)  
a. Principles of nomenclature    b. Rules and recommendations    c. Provision for modification of the code  
d. Effective publication    e. None of these

79. The Division II deals with (b)  
a. Principles of nomenclature    b. Rules and recommendations    c. Provision for modification of the code  
d. Effective publication    e. None of these

80. The Division III deals with (c)  
a. Principles of nomenclature    b. Rules and recommendations    c. Provision for modification of the code  
d. Effective publication    e. None of these

81. The Article-6. Of the ICBN deals with the definition of some of the terms like (e)  
a. Effective publication    b. Valid publication    c. Legitimate and correct names    d. Illegitimate names    e. All of these

82. The Article that deals with Typification is (b)  
a. Article 1-5    b. Article 7-10    c. Article 11-15    d. Article 16-27    e. None of these

83. The starting date for valid publication of Angiosperms, Gymnosperms and Pteridophytes is (a)  
a. 1-5-1753    b. 1-8-1753    c. 1-5-1756    d. 1-8-1756    e. None of these

84. Nominia Familiarum Conservanda gives a list of conserved names of (a)  
a. families    b. order    c. genera    d. sub-families    e. All of these

85. The Article that deals with the names of cultivated taxa is (a)  
a. Article 28    b. Article 29.    c. Article 30.    d. Article 31    e. Article 32

86. *Stachys ambigua* Smith is published as a name of a species,if it is regarded as applying to a hybrid it may be cited as (a)  
a. *Stachys X ambigua* Smith    b. *Stachys – ambigua*    c. *Stachys+ ambigua* Smith  
d. *Stachs =ambigua* Smith    e. None of these

87. When the specific epithet repeats exactly like generic epithet, it is called as (a)  
a. Tautonym    b. Synonym    c. Autonym    d. Homonym    e. None of these

88. An example for Tautonym (d)  
a. *Cajanus cajan*    b. *Sesbania sesban*    c. *Samanae saman*    d. *Malus malus*    e. All of these

89. The book "Author of Plant Names" is edited by (a)  
a. R.K Brumitt and C.C Powell .    b. Pullaiah et.al    c. Raju et.al    d. Adanson and Powell    e. None of these

90. Which of the statement is correct. *Ficus bengalensis* is called as ( e )  
 a. marri in Telugu      b. ala in Tamil      c. alada in kannada      d. bar in Bengali      e. All of these
91. *Ipomea batatas* is the botanical name of (a)  
 a. sweet potato      b. potato      c. sweet pea      d. wild pea      e. pea
92. The vernacular name of sweet potato in Rayalaseema region is (c)  
 a. kanda gadda      b. Thiyya kanda      c. ratnapuri gadda      d. Chilkada dumpa      e. All of these
93. N.B.R.I is at (b)  
 a. Calcutta      b. Lucknow      c. New Delhi      d. Bangalore      e. Kerala
94. Specific epithet *latifolia* means (b)  
 a. small-leaved      b. large-leaved      c. broad-leaved      d. narrow-leaved      e. None of these
95. Lalbagh botanical garden in India is at (a)  
 a. Bangalore      b. Kerala      c. Darjeeling      d. Lucknow      e. Hyderabad
96. The monumental work 'pinax' was written by (c)  
 a. Rivinus      b. Linnaeus      c. Gaspard Bauhin      d. Augustin      e. Brufels
97. *Historia Plantarum* is the book written by (b)  
 a. Camerarius      b. John Ray      c. Tournefort      d. Morison      e. Hutchison
98. The Systematic enumeration of plant species is (a)  
 a. Flora      b. Manual      c. Herbaria      d. Arborea      e. None of these.
99. The Flora of British India was written by. (a)  
 a. Hooker      b. Gamble      c. Hook      d. Robert wight      e. Wallich
100. The flora of Australincis was written by. (d)  
 a. Hooker      b. Gamble      c. Hook      d. Bantham      e. Wallich

- Among the identified plants about seventy percent belong to tropical regions.
- de Candolle (1813) first coined the term taxonomy.
- Pedanius Dioscorides (62 - 128 AD), a physician of Asia minor described 600 medicinal plants. His book was named Materia Medica in Greek.
- Andrea Caesalpino (1519 - 1603 AD) a Italian physician wrote De Plantis (1583), 1500 plants were described, Woody / herbaceous.
- Gaspard Bauhin (1560 - 1624 AD) collected the plants from Italy, France, Switzerland, Books are Prodromus Theati Botanici (1620), Penax Theati Botanici (1623).
- Gaspard Bauhin first attempted to use binomial system of nomenclature.
- John Ray (1628 - 1705 AD). British Botanist published 3 volumes Historia Plantarum (1686 - 1704).
- John Ray is the first who divided the herbs / trees and divided monocotyledons and dicotyledons on the basis of one and two cotyledons.
- J. P. de Tournefort (1656 - 1708) described trees and herbs
- The first herbarium was established in 1553 in Padua (ITALY)
- The classification based on principles of phylogeny was suggested by John Hutchinson in his "The Families of Flowering Plants".
- Luca Ghini (1490-1556) of Italy has been the initiator of the art of herbarium
- In U.S.A., the oldest herbarium was started at Salem College in 1772.
- The herbarium of Academy of Sciences, Philadelphia was started in 1812
- A collection of dried and pressed plants arranged according to a classification system and available for study or reference is known as herbarium
- The approach of taxonomy in which chemical features of plants are used in developing classifications or in solving taxonomic problems is called Chemotaxonomy
- The species bearing constant chromosome numbers are called homoploids
- ICBN is divided into three parts, i.e. Principles, Rules and Recommendations.
- Vernacular or common names are made up of words from the native language of the country or the region.
- Dichotomous Keys consist of pairs of contrasting characters or couplets, each statement of which is a lead.

1. The various classifications of plants proposed

**Artificial:** System classifies plants with the help of one or few characters, primarily with a intention of easy identification of the organism e.g. Banhin, Tournefort, John Ray, Carl Linnaeus.

**Natural:** System is mainly based on from relationship realizing all informations available at that time. e.g., de Candolle, Robert Brown, de Lamarck, Bentham and Hooker's classification.

**Phylogenetic:** System tries to classify plants based on their genetic relationships and according to their evolutionary sequences. e.g., Eichler, Hutchinsm, Bessey.

## 2. Components of taxonomy

(i) **Alpha Taxonomy** (Descriptive taxonomy): The aspect of taxonomy is concerned with the description and designation of species. Typically on the basis of morphological characters, it developed in 19th century. It started with work of Tournefort, de Jussieu and Linnaeus.

(ii) **Beta Taxonomy** (Macrotaxonomy): The arrangement of species into hierarchical system of higher categories or taxa. It developed in 20th century.

(iii) **Gamma Taxonomy**: Aspects of taxonomy concerned with intraspecific population and with phylogenetic trends are included in gamma taxonomy. An attempt is made to account for the origin and development of species. To determine the origin of a species, a taxonomist has to depend on paleobotany which includes all taxa of extinct plant groups.

(iv) **Omega taxonomy**: It is an ultimate perfect system, based upon all available characters.

3. What is ICBN?

The International Code of Botanical Nomenclature (ICBN) is the set of rules and recommendations dealing with the formal botanical names that are given to plants. Its main aim is that each taxon or taxonomic group of plants has only one correct botanical name and that is accepted throughout the world.

4. Principles of ICBN

The philosophical basis of the Code is formed by the following six principles:

1. Botanical nomenclature is independent of zoological nomenclature.
2. The application of names of taxonomic groups is determined by means of nomenclatural types.
3. The nomenclature of a taxonomic group is based upon priority of publication.
4. Each taxonomic group with a particular circumscription, position, and rank can bear only one correct name, the earliest that is in accordance with the Rules, except in specific cases.
5. Scientific names of taxonomic groups are treated as Latin regardless of their derivation.
6. The Rules of nomenclature are retroactive unless expressly limited.

5. Vienna Code (2005)

The latest XVII International Botanical Congress was held in Vienna in 2005 (XVI being at St. Louis, Missouri, USA), and the International Code of Botanical Nomenclature accepted in this Congress is called Vienna Code

6. Give details of Cronquist exemplified chemical evidences used in establishing relationships among taxa

The chemical evidences are useful in establishing relationships among taxa is exemplified (Cronquist, 1981) by the (i) presence of aromatic plants in Juglandales, (ii) production of betalains and not anthocyanins by the members of Caryophyllales, (iii) presence of highly aromatic compounds in the members of Lamiaceae, (iv) presence of alkaloids in Solanaceae, and (v) presence of tanniferous plants in Sapindaceae.

7. Name some of the vegetative characters that play a major role in plant taxonomy

Some of the vegetative characters that play a major role in plant taxonomy and in deducing phylogeny include growth habit, phenological characters, underground organs, stem, leaves, petiole and stipules.

8. Give the floral characters which are used commonly in plant taxonomy

The floral characters which are used commonly in plant taxonomy include types of inflorescence and flower, perianth structure, floral symmetry, union of floral leaves in each whorl, types of androecium and stamens, gynoecium and carpels, ovules, and also the characters of bracts, bracteoles and pedicels.