

# QUESTION BANK

## MULTIPLE CHOICE QUESTIONS

### BOTANY (H), 4<sup>th</sup> SEMESTER

#### PAPER-C.C-X: PLANT SYSTEMATICS

##### UNIT-I

1. The famous Botanical Garden Kew is located in  
a) England                      b) Lucknow                      c) Berlin                      d) Australia
2. Quick referral system in taxonomic studies are  
a) Botanical Garden      b) Herbarium                      c) Monograph                      d) Manual
3. Herbarium is a  
a) Garden where medicinal plants are grown                      b) Dry garden  
c) Garden where herbaceous plants are grown                      d) Chemicals to kill plants
4. Which of the following statements are correct about herbarium?  
a) It is a store house of collected plant species that are dried and preserved on sheets  
b) Herbarium sheets contain information about date and place of collection, names, family, collector's name, etc.  
c) It serves as quick referral systems in taxonomical studies  
d) All of the above
5. In a herbarium, sheets are arranged according to  
a) Regionally accepted system of classification  
b) Universally accepted system of classification  
c) Nationally accepted system of classification  
d) Locally accepted system of classification
6. The principal purpose of classification of living organisms is to  
a) Facilitate identification of unknown organism  
b) Trace the evolution of living organism  
c) Name the living organism  
d) Explain the origin of living organism
7. Taxonomy comprises  
a) Identification                      b) Classification                      c) Nomenclature                      d) All of these
8. Taxon is a  
a) A taxonomic unit                      b) A species                      c) A taxonomic group of any rank  
d) A genus

9. Which of the following taxonomical aid is used for identification of plants and animals based on similarities and dis-similarities

- a) Flora                      b) Keys                      c) Monographs                      d) Catalogues

10. Keys are generally \_\_\_\_\_ in nature

- a) Physical                      b) Chemical                      c) Analytical                      d) Qualitative

11. Which one of the taxonomic aids can give comprehensive account of complete compiled information of any one genus or family at a particular time?

- a) Taxonomic key      b) Flora                      c) Herbarium                      d) Monograph

12. Which one of the following is not a correct statement?

- a) Botanical gardens have collection of living plants for reference  
b) A museum has collection of photographs of plants & animals  
c) Key is a taxonomic aid for identification of specimens  
d) Herbarium is a store house that contains dried, pressed and preserved plant specimens

13. Each statement in the key is called \_\_\_\_\_

- a) Lead                      b) Catalogue                      c) Manual                      d) Monograph

14. The keys are based on contrasting characters generally in a pair called \_\_\_\_\_

- a) Flora                      b) Couplet                      c) Both (a) & (b)                      d) Manual

15. Information of any one taxon is found in

- a) Manual                      b) Museum                      c) Herbarium                      d) Monograph

16. The National Botanical Research Institute is located at

- a) Dehradun                      b) Delhi                      c) Gangtok                      d) Lucknow

17. A document containing a comprehensive account of a specific taxonomic group, generally a genus or family is

- a) Manual                      b) Flora                      c) Monograph                      d) Revision

18. Size of standard herbarium sheet is

- a) 41.25 x 28.75 cms                      b) 21.25 x 28.75 cms  
c) 28.25 x 28.75 cms                      d) 31.25 x 28.75 cm

19. Who introduced the binomial system of nomenclature?

- a) Charles Darwin                      b) Whittaker                      c) Lamarck                      d) Carolus Linnaeus

20. The digitized form of a flora published online is called as

- a) Flora                      b) Virtual herbarium                      c) E-Flora                      d) Regional flora

## UNIT-II

- Binomials with identical genus name and specific epithet are called
  - Homonym
  - Tautonym
  - Basionym
  - Synonym
- The newly collected specimen which is used as a substitute, when the original type material is missing in a herbarium, is designated as
  - Lectotype
  - Holotype
  - Neotype
  - Isotype
- Binomial system of nomenclature for plants is effective from
  - 1.5.1753
  - 5.8.1758
  - 5.7.1758
  - 1.5.1573
- Who was the first to give concept of species
  - Gaspard Bauhin
  - John Ray
  - Benard de Jussieu
  - Darwin
- Specimen used for original publication by the author is
  - Syntype
  - Isotype
  - Holotype
  - Lectotype
- Sequence of taxonomic categories is
  - Class-Phylum-Tribe-Order-Family-Genus-species
  - Division-Class-Family-Tribe-Order-Genus-species
  - Division-Class-Order-Family-Tribe-Genus-Species
  - Phylum-Order-Class-Tribe-Family-Genus-species
- According to current code for botanical nomenclature the name of class must ends with
  - opsida
  - ales
  - idea
  - aceae
- Which of the following 'Suffixes' used for units of classification in plants indicates a taxonomic category of 'family'?
  - ales
  - onae
  - aceae
  - ae
- Taxonomic unit "phylum" is the classification of animals is equivalent to which hierarchical level in the classification of plants ?
  - Class
  - Order
  - Division
  - Family
- Classification deals with
  - Identification of organism
  - Arranging organism into groups
  - Arranging organism in herbaria and museum
  - Naming, identification and grouping of organisms
- The term taxonomy was coined by
  - De Candolle
  - Theophrastus
  - Pliny
  - Linnaeus

12. Name the taxonomist who wrote *Species Plantarum* and *Systema Naturae*  
a) Bentham and Hooker    b) John Ray    c) Linnaeus    d) De Candolle

13. A duplicate of nomenclature type is termed by a taxonomist as  
a) Syntype    b) Neotype    c) Paratype    d) Isotype

14. Principle of priority," says that the valid name of an organism is  
a) Most popular name    b) Name is given in Latin  
c) Oldest used name    d) Oldest name modified by workers

15. ICN stands for  
a) International code of Botanical nomenclature  
b) Indian code of Nomenclature for algae, fungi and plants  
c) International code of Nomenclature for algae, fungi and plants  
d) International council of Botanical nomenclature

16. Which is the current version of the code adopted by the International Botanical Congress in July 2017  
a) Paris code    b) Melbourne code    c) Vienna code    d) Shenzhen code

17. There are .....principles of ICBN for naming of plants  
a) 6    b) 5    c) 7    d) 10

18. At which Botanical Congress ICBN was renamed as ICN  
a) XIX    b) XVIII    c) XVII    d) XVI

19. ICBN was adopted in  
a) 1961    b) 1951    c) 1978    d) 1971

20. When two or more authors publish a new species or propose a new name, their names are linked using the epithet?  
a) In    b) ex    c) et    d) emend

21. In the binomial naming system, species name will start with  
a) Numerical form    b) Capital letter    c) Special sign    d) Small letter

22. A taxonomist can trace the original and subsequent description of a plant when necessary with help of  
a) generic name    b) author citation    c) polynomial    d) specific name

23. Lectotype is  
a) Duplicate of holotype    b) Specimen described along with holotype  
c) Specimen cited by author without making one holotype  
d) Specimen selected from original material for nomenclature type when there is no holotype

24. Who is the father of taxonomy  
a) Linnaeus    b) Lamarck    c) Darwin    d) Theophrastus

25. The category of family is between

a) Genus and species   b) Order and genus   c) Phylum and genus   d) Kingdom and class

26. The highest category in taxonomy is

a) Kingdom                      b) Phylum                      c) Class                      d) Division

27. The lowest category in taxonomic hierarchy

a) Phylum                      b) Subspecies                      c) Species                      d) Variety

28. Where was the 19th International Botanical Congress held

a) Melbourne                      b) Shenzhen                      c) Paris                      d) Vienna

29. As part of ..... code, the ICBN was changed to the ICN

a) Vienna                      b) Shenzhen                      c) Paris                      d) Melbourne

30. Generic name should be written as

a) First letter capital and double word                      b) First letter small and double word  
c) First letter capital and single word                      d) First letter small and single word

### UNIT-III

1. Which among the following is considered a demerit of the 'Engler and Prantl' system of classification?

- a) Gymnosperms are placed between Monocotyledons and Dicotyledons
- b) Gymnosperms are placed among Dicotyledons
- c) Dicotyledons are placed before Monocotyledons
- d) Dicotyledons are placed after Monocotyledons

2. Tepenoids have been extensively used in the chemotaxonomy of

a) Citrus plants                      b) Hordeum plants                      c) Papaver plants                      d) Strychnos plants

3. Number of series in polypetala are

a) 4                      b) 3                      c) 2                      d) 1

4. Karyotaxonomy is based on

a) organic evolution                      b) chemotaxonomy  
c) morphological characters                      d) number of chromosomes

5. Which of these is the most advanced phylogenetically among the dicotyledonous families?

a) Scrophulariaceae                      b) Acanthaceae                      c) Umbelliferae                      d) Compositae

6. The basis of Phenetic classification is

- a) Observable characteristics of existing entities
- b) The ancestral lineage of existing organisms
- c) Dendrograms based on DNA characteristics
- d) Sexual characteristics

7. This system of classification was used by Linnaeus

a) Phylogenetic system                      b) Natural system                      c) Artificial system                      d) Asexual system

8. Genera plantarum was written by

a) Hutchinson                      b) Bessey                      c) Engler and Prantl                      d) Bentham and Hooker

9. In an artificial system of classification
- large number of characters are taken into consideration
  - Correlated characters are relied upon
  - One or a few morphological characters are considered
  - Physiological characters are relied upon
10. Phylogenetic system differs from a natural system in its stress on
- Origin and evolutionary trends
  - Physiological traits
  - Morphological details
  - Anatomical details
11. The classification of pollen is based on number position character analysis is called\_\_\_\_\_.
- NCP system
  - NPC system
  - PCN system
  - CPN system
12. The natural system of classification given by\_\_\_\_\_ -
- Carolus Linnaeus
  - Engler and Prantl
  - Charles Darwin
  - Bentham and Hooker
13. In which type, pollen is constant and characteristic is called\_\_\_\_\_.
- Eurypalynous
  - Stenopalynous
  - Both a and b
  - None of these
14. APG stands for
- Angiosperm Phylogenetic Group
  - Artificial Phylogeny Group
  - Angiosperm Phylogeny Group
  - None of these
15. In which sub-family canavanine is found
- Iotoideae of leguminosae
  - Fabaceae
  - Ixoroideae of Rubiaceae
  - Maloideae of Rosaceae
16. "Elements de Botanique" was published by\_\_\_\_\_.
- Bauhin
  - Tournefort
  - Theophrastus
  - None of these
17. Who proposed APG system?
- Kew Botanists
  - George Bentham
  - Joseph Hooker
  - All of these
18. The organization of taxonomic information in logical classification is known as
- Phenetic
  - Systematics
  - Dendrogram
  - Phylogenetic
19. The reason why the system of plant classification proposed by Carolus Linnaeus was artificial is
- Because it considered the physiological facts along with the morphological traits
  - Because it was based on the similarities and differences in floral and other morphological characters only
  - Because it was on the basis of evolutionary relationships of plants
  - None of these
20. To comprehend general plant relationships, this is one of the best methods
- Experimental Taxonomy
  - Numerical Taxonomy
  - Cytotaxonomy
  - Chemotaxonomy

#### UNIT-IV

1. The process wherein the labellum in Orchidaceae surfaces at the anterior side via the twisting of the ovary through 180 degree
  - a) Articulation
  - b) Adnation
  - c) Attenuation
  - d) Resupination
2. Phylogeny is the study of
  - a) Evolution of plants
  - b) Origin and development of plants
  - c) Origin and development of man
  - d) Physiology of plants
3. Largest dicot family is
  - a) Fabaceae
  - b) Solanaceae
  - c) Asteraceae
  - d) lamiaceae
4. *Dendrobium* belongs to which family
  - a) Asteraceae
  - b) Poaceae
  - c) Liliaceae
  - d) Orchidaceae
5. In tetradynamous condition the stamens are
  - a) 2 short and 2 long
  - b) 4 short and 2 long
  - c) 4 long and 2 short
  - d) 4 long and 4 short
6. The Lamiaceae family is characterized by the inflorescence
  - a) Scorpioid cyme
  - b) Verticillaster
  - c) Helicoid cyme
  - d) Cyathium
7. Which one of the following is most primitive family among Angiosperms?
  - a) Rubiaceae
  - b) Magnoliaceae
  - c) Liliaceae
  - d) Poaceae
8. A phylogenetic tree also known as
  - a) phylogeny
  - b) evolutionary tree
  - c) Both A and B
  - d) inferred tree
9. Which of the following is incorrect regarding the terminologies of phylogenetics?
  - a) The connecting point where two adjacent branches join is called a node
  - b) At the tips of the branches are long lost species or sequences
  - c) Node represents an inferred ancestor of extant taxa
  - d) The lines in the tree are called branches
10. Arranging organism on the basis of their shared similar or derived characters that differ from ancestral character is called
  - a) Homogram
  - b) Monogram
  - c) Histogram
  - d) Cladogram
11. Lodicules in flowers of Poaceae, represents
  - a) perianth
  - b) calyx
  - c) corolla
  - d) culm
12. Gynostegium and labellum are features of
  - a) Dogbane family
  - b) Asclepiadaceae
  - c) Rosaceae
  - d) Orchidaceae
13. Interpetiolar stipule is found in
  - a) Orchidaceae
  - b) Acanthaceae
  - c) Rubiaceae
  - d) Lamiaceae

14. Who described parallelism as “the independent occurrence of similar changes in groups with a common ancestry ”

- a) Heywood                      b) Simpson                      c) Dahlgren *et.al*                      d) Takhtajan

15. Which group consists of a most recent ancestor and its entire descendants

- a) monophyletic                      b) paraphyletic                      c) polyphyletic                      d) holophyletic

16. When different organisms independently evolve similar traits called

- a) analogy                      b) clade                      c) homology                      d) convergence

17. What gives an actual representation of the evolutionary history of the organisms

- a) cladogram                      b) phylogenetic tree                      c) monophyletic tree                      d) clade

18. Which family is also known as dogbane family

- a) Apocynaceae                      b) Rubiaceae                      c) Orchidaceae                      d) Musaceae

19. The structure formed by the fusion of the stamens with stigmatic disc is called

- a) Syngenesious                      b) Gynoecium                      c) Gynostegium                      d) Translator

20. The most advanced family among monocots is

- a) Asteraceae                      b) Poaceae                      c) Liliaceae                      d) Orchidaceae

21. Feathery stigma occurs in

- a) Pea                      b) Wheat                      c) Michelia                      d) Rose

22. Several pollen grains form a unit designated as pollinium in Family

- a) Asteraceae                      b) Acanthaceae                      c) Asclepiadaceae                      d) Rosaceae

23. Inflorescence of Poaceae is

- a) Catkin                      b) Panicle                      c) Head                      d) Spikelet

24. In Musaceae, the type of inflorescence found is

- a) Spathe                      b) Spike                      c) Spadix                      d) Catkin

25. Jaculator mechanism of seed dispersal is found in

- a) Apocynaceae                      b) Acanthaceae                      c) Asclepiadaceae                      d) Rubiaceae

26. In which of the following is translator apparatus present?

- a) Musa                      b) Ixora                      c) Calotropis                      d) Triticum

27. Vanilla essence is obtained from which family

- a) Poaceae                      b) Musaceae                      c) Liliaceae                      d) Orchidaceae

28. Fruit of Poaceae is

- a) Legume                      b) Pome                      c) Caryopsis                      d) Capsule



29. Coffee plant belongs to which family?

- a) Rosaceae                      b) Rubiaceae                      c) Acanthaceae                      d) Apocynaceae

30. The most advanced family among dicot is

- a) Asteraceae                      b) Acanthaceae                      c) Asclepiadaceae                      d) Apocynaceae

**Unit-I: Answer Key**

1.(a)	2.(b)	3.(b)	4.(d)	5.(d)
6.(a)	7.(d)	8.(c)	9.(b)	10.(c)
11.(d)	12.(b)	13.(a)	14.(b)	15.(d)
16.(d)	17.(c)	18.(a)	19.(d)	20.(c)

**Unit-II: Answer Key**

1.(b)	2.(c)	3.(a)	4.(b)	5.(c)
6.(c)	7.(a)	8.(c)	9.(c)	10.(b)
11.(a)	12.(c)	13.(d)	14.(c)	15.(c)
16.(d)	17.(a)	18.(B)	19.(a)	20.(c)
21.(d)	22.(b)	23.(d)	24.(a)	25.(b)
26.(a)	27.(c)	28.(b)	29.(d)	30.(c)

**Unit-III: Answer Key**

1.(d)	2.(a)	3.(b)	4.(d)	5.(d)
6.(a)	7.(c)	8.(d)	9.(c)	10.(a)
11.(b)	12.(d)	13.(b)	14.(c)	15.(a)
16.(b)	17.(d)	18.(b)	19.(b)	20.(d)

**Unit-IV: Answer Key**

1.(d)	2.(a)	3.(c)	4.(d)	5.(c)
6.(b)	7.(b)	8.(c)	9.(b)	10.(d)
11.(a)	12.(d)	13.(c)	14.(b)	15.(a)
16.(d)	17.(b)	18.(a)	19.(c)	20.(d)
21.(b)	22.(c)	23.(d)	24.(c)	25.(b)
26.(c)	27.(d)	28.(c)	29.(b)	30.(a)