

Subject : **Botany**  
Paper : **X (Angiosperm Taxonomy, Anatomy and Embryology)**  
Paper no: **BOT/VI/ CC/ 19**  
Semester : **VI**

**A. Multiple choice**

Tick (✓) the correct answer in the brackets provided:

Unit 1

1. *Genera Plantarum* is written by
  - a) Bentham and Hooker ( )
  - b) Engler and Prantl ( )
  - c) John Hutchinson ( )
  - d) None of the above ( )
  
2. "Families of the Flowering Plants" book is written by
  - a) Bentham and Hooker ( )
  - b) Engler and Prantl ( )
  - c) John Hutchinson ( )
  - d) None of the above ( )
  
3. The system of classification given by Bentham and Hooker is
  - a) natural ( )
  - b) artificial ( )
  - c) phylogenetic ( )
  - d) All of the above ( )
  
4. Phylogenetic system of classification is based on
  - a) Floral characters ( )
  - b) Evolutionary relationship ( )
  - c) Morphological features ( )
  - d) Chemical constituents ( )
  
5. The system of classification given by Engler and Prantl is
  - a) natural ( )
  - b) artificial ( )
  - c) phylogenetic ( )
  - d) Modern ( )

Unit 2.

6. In arboretum botanical garden the only species of plant grown is
  - a) Trees ( )
  - b) Bamboos ( )
  - c) Orchids ( )
  - d) Grasses ( )
  
7. The largest and oldest botanical garden in India
  - a) Indian Botanical Garden, Kolkata ( )
  - b) National Botanical Garden, Lucknow ( )
  - c) Lloyd Botanic Garden, Darjeeling ( )

- d) The Mysore State Botanic Garden, Bangalore ( )
8. The world's largest and famous Botanical Garden is
- a) Royal Botanical Garden, Kew ( )
  - b) Botanic Garden of Cambridge University ( )
  - c) Botanic Garden of University of Moscow ( )
  - d) Botanical Garden of Philadelphia ( )
9. 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 ( )
10. One of the largest herbarium is located in
- a) Sweden ( )
  - b) Geneva ( )
  - c) Berlin ( )
  - d) Kew ( )

### Unit 3

11. Pulses are group of plants belonging to the family
- a) Fabaceae ( )
  - b) Rutaceae ( )
  - c) Magnoliaceae ( )
  - d) Zingiberaceae ( )
12. Obdiplostmenous condition of androecium is common in the family
- a) Scrophulariaceae ( )
  - b) Verbenaceae ( )
  - c) Liliaceae ( )
  - d) Rutaceae ( )
13. Phyllotaxy refers to the arrangement of
- a) Flowers ( )
  - b) inflorescence ( )
  - c) leaves ( )
  - d) stems ( )
14. Almost all plants have latex in
- a) Fabaceae ( )
  - b) Euphorbiaceae ( )
  - c) Cyperaceae ( )
  - d) Orchidaceae ( )
15. Inflorescence in family Euphorbiaceae is
- a) Catkin ( )

- b) Cyathium ( )
- c) Spike ( )
- d) Capitulum ( )

UNIT – 4

16. Presence of phloem wedges in the xylem is found in

- a) *Amaranthus* stem ( )
- b) *Mirabilis* stem ( )
- c) *Bignonia* stem ( )
- d) All of the above ( )

17. The meristematic tissue that developed between vascular bundles during secondary growth is called

- a) Fascicular cambium ( )
- b) Interfascicular cambium ( )
- c) Primary cambium ( )
- d) None of the above ( )

18. Cork cells are otherwise called

- a) periderm ( )
- b) phelloderm ( )
- c) phellem ( )
- d) phellogen ( )

19. Beneath which region the cells become meristematic in dicot root?

- a) Xylem ( )
- b) Phloem ( )
- c) Pith ( )
- d) Endodermis ( )

20. Interxylary phloem is formed due to

- a) Formation of accessory strips of cambium ( )
- b) Abnormal behaviour of normal cambium ( )
- c) Anomalous position of cambium ( )
- d) Anomalous behaviour of abnormal cambium ( )

UNIT – 5

21. A single hypodermal cell in the nucellus becomes differentiated from its surrounding cells by its larger size, dense cytoplasm and large nucleus, called

- a) primary sporogenous cell ( )
- b) primary parietal cell ( )
- c) archesporial cell ( )
- d) nucellus ( )

22. An embryo sac that it is derived from only one of the four megaspores is called

- a) monosporic embryo sac ( )
- b) Bisporic embryo sac ( )
- c) Tetrasporic embryo sac ( )
- d) Haplosporic embryo sac ( )

23. Transfer of pollen grains from an anther to the stigma of different flower of the same plant is called
- a) heterogamy ( )
  - b) geitonogamy ( )
  - c) Cleistogamy ( )
  - d) xenogamy ( )
24. *Cocos nucifera* is an unique example of
- a) cellular endosperm ( )
  - b) helobial endosperm ( )
  - c) nuclear endosperm ( )
  - d) none of the above ( )
25. The seeds where the endosperm forms a permanent tissue which persists till germination of seeds are called
- a) albuminous seeds ( )
  - b) exalbuminous seeds ( )
  - c) non-endospermic seeds ( )
  - d) monocot seeds ( )

Fill in the blanks:

Unit 1

1. The Bentham and Hooker system of classification divided all the Phanerogams into Dicotyledons, \_\_\_\_\_ and Monocotyledons.
2. Smallest taxon of classification is \_\_\_\_\_
3. Number of volumes in *Genera plantarum* is \_\_\_\_\_

Unit 2.

4. \_\_\_\_\_ is the one specimen or other element used by the author or designated by him as the nomenclatural type.
5. When the specific epithet exactly repeats the generic name it is known as \_\_\_\_\_
6. \_\_\_\_\_ in Italy is considered to be the oldest Botanical Garden in the world.

Unit 3.

7. Number of perianth in family Liliaceae are \_\_\_\_\_
8. Pollinium is found in the family \_\_\_\_\_
9. In the family \_\_\_\_\_ the leaves are dotted with glands which contain volatile oils.

Unit 4

10. The change of position of xylem strands from exarch to endarch type is referred to as \_\_\_\_\_
11. The strips of cambium that arise within collateral bundles is called \_\_\_\_\_
12. During Root – Stem transition, the number of vascular bundles in stem is half the number of vascular bundles in root in \_\_\_\_\_ type

#### Unit 5

13. The phenomenon of development of more than one embryo inside a seed is called \_\_\_\_\_
14. Biosporic embryo sac are of two types - \_\_\_\_\_ and \_\_\_\_\_
15. Endosperm is the main source of food for the growing \_\_\_\_\_

### KEY ANSWERS

#### Multiple choice

##### Unit 1

1. a
2. c
3. a
4. b
5. c

##### Unit 2

6. a
7. a
8. a
9. b
10. d

##### Unit 3

11. a
12. d
13. c
14. b
15. b

##### Unit 4

16. (c) – Bignonia stem

17. (b) – Interfascicular cambium
18. (c) – Phellem
19. (b) – Phloem
20. (b) – Abnormal behaviour of normal cambium

**Unit 5**

21. (c) – archesporial cell
22. (a) – monosporic embryo sac
23. (b) – geitonogamy
24. (c) – nuclear endosperm
25. (a) – albuminous seeds

**Fill in the blanks:**

Unit 1

1. Gymnosperms
2. Species
3. Three

Unit 2

4. Holotype
5. Tautonyms
6. Padua Botanical Garden

Unit 3

7. Six
8. Orchidaceae
9. Rutaceae

Unit 4

10. Vascular transition.
11. Fascicular cambium
12. *Anemarrhena*

Unit 5

13. polyembryony.
14. allium type, endymion type
15. embryo