

**M. Sc. BOTANY**  
**FIRST SEMESTER**  
**Advanced Morphology, Anatomy And Taxonomy Of**  
**Angiosperms**  
**MSB – 103**

Duration: 3 Hrs.

Marks: 70

PART : A (OBJECTIVE) = 20  
PART : B (DESCRIPTIVE) = 50

[ PART-B:Descriptive ]

Duration: 2 Hrs. 40 Mins.

Marks: 50

[ Answer question no. One (1) & any four (4) from the rest ]

1. Discuss floral anatomy. Define periderm, write about the origin and activity of periderm. 4+2+4  
=10
2. Discuss about the anatomical response to mineral deficiency with proper diagrams. Discuss the response to plants to wounds and invasion by microbes. 6+4=10
3. Write briefly about origin and evolution of Stamen and carpel with proper diagrams. 5+5=10
4. *Write short notes on (any two)* 5+5=10
  - a. Different types of ovary
  - b. Special types of inflorescence
  - c. Appendicular theory regarding evolution of inferior ovary
  - d. Ultrastructure and function of cell wall
5. "Orchidaceae is considered as highest evolved family among monocot" Justify the statement. Mention 4 Scientific names under this family of ornamental value. 6+4=10
6. Write briefly about objectives and activities of Botanical Survey of India. Write four regional circles under Botanical Survey of India. 6+4=10
7. *Compare:* 5+5=10
  - a. Zingiberaceae with Musaceae
  - b. Rutaceae with Apocynaceae
8. *Draw and label (any two)* 5+5=10
  - a. Spikelet of a Paddy
  - b. Capitulum of Helianthus
  - c. L.S. of Hypanthodium with 3 types of flower.

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**ADVANCED MORPHOLOGY, ANATOMY AND TAXONOMY OF**  
**ANGIOSPERMS**  
**MSB – 103**

[ PART-A :Objective ]

Choose the correct answer from the following :

1×20=20

1. Bentham and Hooker placed Gymnosperms
  - a. Before Angiosperm
  - b. In between Dicot and Monocot
  - c. After Dicot
  - d. After monocot
  
2. The standard size of a herbarium sheet is
  - a. 26 X 40 cm
  - b. 28.75 X 41.25 cm
  - c. 29 X 42 cm
  - d. 27 X 40 cm
  
3. The anther united the filaments free
  - a. Synandrous
  - b. Syngenesious
  - c. Epipetalous
  - d. Gamopetalous
  
4. Intercalary meristem results in
  - a. Secondary growth
  - b. Apical growth
  - c. Primary growth
  - d. None
  
5. Vascular bundle in Dicots are
  - a. Open, collateral, exarch
  - b. Closed, collateral, endarch
  - c. Open, collateral, endarch
  - d. None
  
6. "Families of flowering plants" published in the year of
  - a. 1971
  - b. 1973
  - c. 1972
  - d. None

7. Who was the author of the book "Families of flowering plants"
- John Hutchinson
  - U.C. Kanjilal
  - Hooker
  - None
8. "Spathe" is present in
- Musa
  - Zingiber
  - Amomum
  - None
9. Angiosperm is closely allied to
- Gnetum
  - Pteridophytes
  - Bryophytes
  - None
10. Botanical review was published in
- 1981
  - 1980
  - 1982
  - None
11. "Head" is present in
- Asteraceae
  - Orchidaceae
  - Lamiaceae
  - None
12. The biggest herbarium in world
- RBG Kew
  - MNH Paris
  - CNH Kolkata
  - None
13. Amentiferae theory was proposed by
- Engler (1882 -1892)
  - Markgraf (1930)
  - H. Hamshaw Thomas (1925, 1936)
  - None
14. The growth of the inflorescence axis is unlimited and Flowers are arranged in Acropetal manner. Name of the inflorescence type.
- Racemose inflorescence
  - Cymose inflorescence
  - Uniparous or Monochasial
  - None
15. The growth of the inflorescence axis is limited and Flowers are arranged in basipetal manner. Name of the inflorescence type.
- Racemose inflorescence
  - Cymose inflorescence
  - Spike
  - None
16. In this type of inflorescence, the flowers arise in the axil of bracts arranged opposite to each other representing dichasial cyme.
- Vertillaster
  - Cyathium
  - Hypenthodium
  - None
17. KCA represent the
- Vertillaster
  - Cyathium
  - Hypenthium
  - None
18. Synovarious carpel is
- Apocarpous with fused styles and stigmas
  - Syncarpous with free styles and stigmas
  - Syncarpous with free stigmas
  - None
19. Gynostegiumcarpel is
- Apocarpous with fused styles and stigmas
  - Syncarpous with free styles and stigmas
  - Syncarpous with free stigmas
  - None
20. Circinotropous ovule having
- Ovule placed at right angles to the funiculus, as in *Ranunculus*.
  - Funiculus very long and surrounding the ovule, as in *Opuntia*.
  - Inverted ovule with micropyle facing and closer to funiculus, as in *Ricinus*.
  - None

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