

M.Sc. BOTANY
First Semester
HIGHER PLANT DIVERSITY
(MSB – 103)

Duration: 3Hrs.

Full Marks: 70

Part-A (Objective) =20
Part-B (Descriptive) =50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins.

Marks: 50

Answer any *five* of the following questions:

1. What are the different systems of classification of plants? Write briefly any system of classification of plants studied by you. (2+8=10)
2. Distinguish between: (5+5=10)
 - (a) Brassicaceae from Capparidaceae
 - (b) Solanceae from Scrophulariaceae
3. Give an account of the family Fabaceae, mention the distinguishing characters of its sub families. Cite one example of plant of each family. (2+5+3=10)
4. "Astreaceae is considered as highly evolved family among dicots"- Justify. Cite examples of five plants along with their scientific names. (5+5=10)
5. Describe the general features of the family Rutaceae. Also mention their distinguishing characters. Mention four important plants of economic importance along with their scientific names. (2+4+4=10)
6. Name some naturally growing *Pinus* species from India. Describe the life cycle of *pinus* with suitable diagrams. (2+8=10)

7. Give an account of the development of male gametophyte and female gametophyte in *Gnetum*. How does it approach near angiospermic level? (7+3=10)
8. Write in brief life history of *Ginkgo biloba* giving suitable sketches. (10)

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Duration: 20 minutes

Marks – 20

(PART A - Objective Type)

I. Answer the following:

1×20=20

1. Pollinia is attached to a long tail like structure in Orchidaceae family, known as.....
2. In Pinus, the winged pollen grains are caught in a drop of sticky substance,exuded from the micropylar end secreted by the nucellus and fills the micropyle up to the rim.
3. The standard size of a herbarium sheet is 28.75 by 41.25 cm.
(a) True (b) False
4. The family "PALMAE" is the alternative name of-
(a) Apiaceae (c) Araceae
(b) Arecaceae (d) None
5. 'Genera Plantarum' was published in-
(a) (1800-1884) (c) 1862-1883)
(b) (1862-1880) (d) 1817-1911)
6. John Hutchinson's system of classification was based on-
(a) 202 orders (c) 24 principles
(b) 24 classes (d) none
7. The last division of Englar Prantl's system is-
(a) Conjugatae (c) Seed plants
(b) Rhodophyta (d) Charophyta
8. In the family Brassicaceae the stamens are-
(a) Polyandrous (c) Diadelphous
(b) Monadelphous (d) None
9. In Rice plant, the first two glumes are also called-
(a) Flowering glumes (c) Empty glumes
(b) Palea (d) Lemma

10. Modification of the calyx in the "Asteraceae" family is known as-
- (a) Cypsela (c) Pappus
(b) Caryopsis (d) None
11. In the family Rutaceae the stamens are-
- (a) Epipetalous (c) Tetradynamous
(b) Obdiplostemonous (d) None
12. The scientific name of "Turmeric" is-
- (a) Curcuma aromatic Salisb (c) C. Zedoaria Roase
(b) C. Domestica Valet (d) None
13. "Vanda Coerulea" is popularly known as-
- (a) Blue Vanda (c) Parrot flower
(b) Red Vanda (d) None
14. Which family is "most advanced" among Dicots?
- (a) Fabaceae (c) Orchidaceae
(b) Asteraceae (d) Renunculaceae
15. Apocarpous carpel means-
- (a) many carpels (c) Carpels fused
(b) Carpels free (d) Only one carpel
16. Embryosac of female gametophyte of Gnetum follows the developmental pattern of-
- (a) Monosporic type (c) Tetrasporic type
(b) Bisporic type (d) None of the above
17. Algal zone is characteristic of-
- (a) Roots of Pinus (c) Normal root of Cycas
(b) Stem of Cycas (d) Corraloid roots of Cycas
18. Which one of the following is called a living fossil?
- (a) Gnetum (c) Taxus
(b) Ginkgo biloba (d) None of the above
19. Botanical name of Chilgoza pine is-
- (a) Pinus roxburghii (c) Pinus monophylla
(b) Pinus insularis (d) Pinus gerardiana
20. In Gymnosperms, pollination is exclusively by-
- (a) Water (c) Animals
(b) Insects (d) Wind
