

**M.Sc. Botany  
First Semester  
Higher Plant Diversity**

**MSB-03**

Duration: 3Hrs.

Full Marks: 70

**(PART-B: Descriptive)**

**Duration: 2 hrs. 40 mins.**

**Marks: 50**

**Q. No. 1 Answer the following (any five)**

**2x5=10**

- (i) Which system of classification is most advance and why?
- (ii) What do you mean by classification and what are the main ranks of classification?
- (iii) Write the main objectives of Plant Systematics.
- (iv) Why *Ginkgo* is called Living Fossil?
- (v) Distinguish between Monocot and Dicot?
- (vi) Write two examples with botanical name from the family Poaceae.
- (vii) Write the botanical name and family of two economically important timber species.

**Q. No. 2: Distinguish between (any five)**

**3x5=15**

- (i) Gymnosperm and Angiosperm
- (ii) *Cycas* and *Pinus*

(iii) *Ginkgo* and *Gnetum*

(iv) Eupharbiaceae and Moraceae

(v) Malvaceae and Tiliaceae

(vi) Musaceae and Zingiberaceae

(vii) Poaceae and Cyperaceae

**Q. No. 3: Answer the following (any five)**

**5x5=25**

(i) Distinguish between artificial, natural and phylogenetic classification system?

(ii) Explain the reproductive structures of *Ginkgo* with diagram.

(iii) Write the economic importance of Gymnosperm.

(iv) Write the angiospermic characteristics of *Gnetum*.

(v) Why family Asteraceae is considered as the highest advanced family among Dicots?

(vi) Why family Orchidaceae is considered as the most advanced family of Monocots?

(vii) Write a short note on herbarium specimen collection and labelling.

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**PART A**

**Duration: 20 minutes**

**Tick the correct one-**

**Marks – 20  
1x20=20**

- (i) The term taxonomy was first coined by-
- a. A.P. de Candolle (1813)
  - b. Radford (1986)
  - c. Linnaeus (1753)
  - d. None of the above
- (ii) Study of the diversity of plants and their identification is called-
- a. Systematics
  - b. Classification
  - c. Taxonomy
  - d. None of the above
- (iii) Which one of the following is not a basic component of Taxonomy?
- a. Classification
  - b. Nomenclature
  - c. Identification
  - d. Herbarium
- (iv) Which one of the following is not a phylogenetic classification system?
- a. Engler and Prantle
  - b. Hutchinson
  - c. Takhtajan
  - d. Theophrastus
- (v) Which one of the following is a dioecious species-
- a. *Cycas*
  - b. *Pinus*
  - c. Both *Cycas* and *Pinus*
  - d. None of the above
- (vi) Resin formation is found in-
- a. *Pinus*
  - b. *Cycas*
  - c. *Ginkgo*
  - d. *Gnetum*
- (vi) Most of the *Pinus* species are-
- a. Monoecious
  - b. Dioecious
  - c. Sub-dioecious
  - d. All of the above
- (vii) *Cycas* is found in -
- a. Tropical and Sub-Tropical regions
  - b. Tropical regions
  - c. Tropical and Temperate regions
  - d. Sub-Tropical regions
- (viii) Vessel element in xylem is absent in-
- a. *Ginkgo*
  - b. *Cycas*
  - c. *Pinus*
  - d. All of the above

- (ix) Cyathium inflorescence found in the family-
- a. Moraceae
  - b. Araceae
  - c. Myrtaceae
  - d. Euphorbiaceae
- (x) Hypanthodium is the identifying characteristic of the family -
- a. Moraceae
  - b. Araceae
  - c. Myrtaceae
  - d. Euphorbiaceae
- (xi) *Tectona grandis* (Teak) belongs to the family-
- a. Verbenaceae
  - b. Magnoliaceae
  - c. Anacardiaceae
  - d. Tiliaceae
- (xii) Individual unit of perianth is called-
- a. Sepal
  - b. Petal
  - c. Tepal
  - d. None of the above
- (xiii) Verticillaster inflorescence is found in the family-
- a. Lamiaceae
  - b. Poaceae
  - c. Euphorbiaceae
  - d. Cyperaceae
- (xiv) Which one of the following is belong to the family Arecaceae-
- a. *Cocos nucifera*
  - b. *Citrus limon*
  - c. *Ageratum conyzoides*
  - d. *Ricinus communis*
- (xv) Unisexual flower found in-
- a. *Mangifera indica*
  - b. *Oryza sativa*
  - c. *Zea mays*
  - d. *Chorcorus capsularis*
- (xvi) *Ocimum sanctum* belongs to the family-
- a. Euphorbiaceae
  - b. Acanthaceae
  - c. Tiliaceae
  - d. Lamiaceae
- (xvii) Head and capitulum inflorescence is the identifying characteristic of the family-
- a. Moraceae
  - b. Lauraceae
  - c. Asteraceae
  - d. Apocynaceae
- (xviii) Which family has monadelphous androecium-
- a. Orchidaceae
  - b. Malvaceae
  - c. Rosaceae
  - d. Cucurbitaceae
- (xix) Labellum is found in the family-
- a. Zingiberaceae
  - b. Orchidaceae
  - c. Musaceae
  - d. None of the Above
- (xx) Inter petiolar stipule is found in the family-
- a. Lauraceae
  - b. Moraceae
  - c. Acanthaceae
  - d. Rubiaceae