

**CARMEL COLLEGE OF ARTS, SCIENCE & COMMERCE FOR WOMEN  
SEMESTER END EXAMINATION, APRIL 2019**

Semester: II of B.Sc      SUBJECT: BOTANY (BOC-102: Biodiversity II)  
Total marks: 80      Date: 20/04/2019      Duration: 2Hrs

- Instructions: 1) All questions are compulsory, however internal choice is available.  
2) Figures to the right indicate full marks.  
3) Draw diagrams wherever necessary.

**Q 1. Answer any six of the following** (2 x 6 = 12)

- i) List any four points of similarities between gymnosperms and pteridophytes.
- ii) What are corallorhizae?
- iii) List the economic uses of pteridophytes.
- iv) Differentiate between a cladogram and a dendrogram.
- v) Rewrite the given botanical name correctly with Author citation. Specify the 'Genus' & 'species' names in the given example. What is the indication of (L.) & Willd. in the nomenclature?  
**(L.) Willd. Ilea Sambucina**
- vi) Enlist the details to be presented on herbarium label.
- vii) Given below are prefixes of some ranks according to ICBN. Give the correct ranks of the given prefixes & arrange them in order of their hierarchy.
  - a. 'ales'-
  - b. 'opsida'-
  - c. 'aceae'-
  - d. 'eac'
- viii) Give the concept of Typification.

**Q 2. Answer any five of the following** (4 x 5 = 20)

- i) Mention the morphological features of the genus *Rhynia*.
- ii) Give Coulter and Chamberlain's classification of gymnosperms
- iii) Why are gymnosperms not as successful as angiosperms? (4 points)
- iv) What are girdle bundles? How are they formed?
- v) Match the columns with the most suitable words & rewrite from A, B & C :

S.No.	A	B	C
1	<i>Oryza sativa</i>	Bisexual	Unisexual
2	Disc floret	Climber	Liliaceae
3	<i>Rosemarinus officinalis</i>	Poaceae	Swedish Botanist
4	Pappus	<i>Allium cepa</i>	Lamiaceae
5	<i>Species Plantarum</i>	Persistent calyx	Actinomorphic
6	ICBN	Essential oil	Caryopsis
7	Theophrastus	Capsule /Berry	Artificial system
8	Underground stem	Author citation	<i>Solanum</i> sp.
-	-	<i>Historia Plantarum</i>	Wind dispersal
-	-	Carolus Linnaeus	Rule of Priority

- vi) Imagine that you are planning a visit to a renowned National / International Botanical Institution. Carefully read the following questions & answer :
- To which city in India you will book your train /flight ticket to?
  - To which section you will be going to if you want to identify a plant specimen which you have carried with you?
  - Name any one facility other than the one above (b) that you will be visiting there.
  - To which country & which institution you will fly, if incase you want to visit an international herbarium.
- vii) Give the concept of Phylogenetic system of classification with an example. What is the advantage of this system over other systems?

**Q 3 A.** Using a neat- labelled diagram, describe the anatomical features of *Pteris* leaf.

**OR**

- Give the taxonomic position and morphological features of *Psilotum*. (6)
- Write a short note on stellar evolution in pteridophytes. (6)

**Q 4 A.** Using a neat-labelled diagram, elaborate on the anatomical features of *Pinus* needle.

**OR**

- Describe in detail the reproductive structures in *Gnetum* (6)
- What is numerical taxonomy? List its principles. (6)

**Q 5 A.** Differentiate between Single access & Multi access keys? Explain any 2 types of Single access Keys.

**OR**

- Write notes on: Flora & ICBN. (6)
- Enlist the diagnostic characters of Solanaceae & give any 2 plants of economic importance from the family. (6)

**Q 6 A.** Exemplify with 2 examples each as to how data from the Molecular biology & Cytology can be used as tools in Taxonomy.

**OR**

- Outline the classification of Bentham & Hooker. (6)
- Outline the classification of Engler & Prantl. (6)

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