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PG CBCS
M.Sc. Semester-IV Examination, 2019
BOTANY
PAPER: BOT-403
Special paper II
(MOLECULAR SYSTEMATICS)

Full Marks: 40 **Time: 2 Hours**

Special Paper – II:

MOLECULAR SYSTEMATICS

1. **Answer any five of the following:** 2×5
   a) Write the full forms of rbcl and matk.
   b) Define cryptovivipary. Give an example.
   c) Write the full forms of OTUs and UC.
   d) Name two insectivorous plants with their respective family.
   e) Name one traditional and one digital herbaria of the world.
   f) Define phylogeny.
   g) Define endangered plant.
   h) Define principle of Parsimony.

2. **Write notes on any two of the following:** 5×2
   a) Dendrogram and cladogram;
   b) ITS regions and its significance;
   c) Plesiomorphy and apomorphy;
   d) Homology and analogy.

3. Answer any two of the following: **10×2**

a) What is DNA barcoding? Mention the types of markers which are commonly used for DNA barcoding. Write the differences between cp DNA and mt DNA. Which markers are commonly used for solving taxonomic problems? 2+2+3+3

b) Define parasitic taxa. Give an example. What are the basic differences between Holo and Hemi-parasite? Discuss in details with examples and suitable sketches of adaptive features, distribution, and phylogeny of parasitic plants. 1+1+2+6

c) Write the principle of Numerical taxonomy. Describe the different steps involved in Numerical taxonomy. 3+7

d) (i) Discuss elaborately major adaptive feature of mangroves. (ii) Discuss in brief about the dye yielding plants of India. 5+5

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