**ST JOSEPH’S UNIVERSITY, BENGALURU -27**

Registration Number:

Date & Session:

**M.Sc. BOTANY – 4th SEMESTER**

**SEMESTER EXAMINATION: APRIL 2024**

**(Examination conducted in May / June 2024)**

**BO DE0523: Systematics of Angiosperms**

**(For current batch students only)**

**Time: 2 Hours Max Marks: 50**

**This paper contains TWO printed pages and THREE parts**

**Draw diagrams and write examples wherever necessary**

**PART-A: Define or Describe any FIVE of the following: 5x2=10**

1. ANA grade
2. Analogous organs
3. Abrupt speciation
4. Ecotypes
5. Open ended floras
6. DNA/DNA hybridization
7. p-proteins

**PART-B: Attempt any FIVE of the following: 5x6=30**

1. Give a comparative account on parallelism and convergence
2. Explain Transitional-Combinational Theory
3. Outline Dahlgren system classification
4. Evaluate DNA barcoding and traditional taxonomy
5. Differentiate between ecological and evolutionary species concepts
6. A brief account on Clausen’s experiment
7. Elucidate the role of computer-based mapping of plant distribution and vegetation change

**PART-C: Attempt any ONE of the following: 1x10=10**

1. a. Depict Co-evolution of angiosperms and animals.

b. Read The below excerpt and discuss the method involved:

“……….The development and characterization of polyclonal antibodies for the detection of ToMV with appropriate parameters (sensitivity, specificity, and cross-reactivity) were the subjects of this study. A new polyclonal antibody, AB-1, was developed in immunized rabbits using the modified oligopeptides with antigenic potential (sequences are revealed) derived from the coat protein of ToMV SL-1. the developed polyclonal antibody. AB-1, showed higher sensitivity when compared with commercially available analogs. It also detected ToMV in infected pepper and eggplant plants, and detected another two

tobamoviruses (TMV and PMMoV) and ToMV in soil rhizosphere samples and root residues, even two years after the cultivation of the infected tomato plant…..”

Source: doi: 10.3390/v14061331

1. Compare between geographical and ecological, and ethological isolation mechanisms and justify which concept is more suitable to explain evolution and differentiation of Species