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

Registration Number:

Date & Session:

**M.Sc. BOTANY – 2nd SEMESTER**

**SEMESTER EXAMINATION: APRIL 2024**

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

**BO 8323 – PLANT MORPHOGENESIS AND EMBRYOLOGY**

**(For current batch students only)**

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

**This paper contains ONE printed page and THREE parts**

**Draw diagrams and examples wherever necessary**

**A. Answer any FIVE questions in few sentences 5X2=10**

1. Describe orthostichy with an example.

2. Describe the axial theory of nature of inferior ovary.

3. What is Nemec phenomenon and give an example?

4. Illustrate the role of nucleus in polarity with an example.

5. Define male germ unit.

6. Write on embryo sac haustoria and its types.

7. What is filiform apparatus and its functions?

**B. Answer any FIVE questions 5X6=30**

8. Describe the structure of young anther wall and its components with a neat labelled diagram.

9. Define differentiation and give an account on the role of growth hormones in xylem tissue differentiation.

10. Explain any twoexperimental studies using root apex to understand the plant morphogenesis.

11. Describe how plants avoid inbreeding and give insights into its mechanism.

12. Describe the monosporic, eight-nucleate embryo sac development with example.

13. Give an account of polyembryony and its types.

14. Comment on: a) Strobilar theory; b) Repulsion theory

**C. Answer any ONE question in detail 1X10=10**

15. a) Explain the morphological and cellular changes observed during the transformation of shoot apex to reproductive apex.

b) Which model of flower development has the SEPALLATA genes? Add a note on how these genes influence the floral organ identity?

16. a) Give an account on stigma and its types in angiosperm plants.

b) Describe endosperm and its types.