

Date:

Registration number:

ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU-27

M.Sc. BOTANY - II SEMESTER

SEMESTER EXAMINATION: APRIL 2022

(Examination conducted in July 2022)

**BO 8221 - Plant Morphogenesis and Embryology**

**Time - 2 ½ Hours Max. Marks - 70**

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

**Draw diagrams wherever necessary**

**A. Define any TEN of the following 10x2=20**

1. Repulsion theory

2. Pollen sporophytes

3. Leaf forming substances

4. Polyspermy

5.Monoaxial theory

6. SEPALLATA gene

7. Distichous phyllotaxy

8. Coenomegaspore

9.Stigmatic exudate

10. Apomixis

11. Hypostase

12. Double fertilization

**B. Write critical notes on any FIVE of the following 5x6=30**

13. Role of nucleus in polarity and morphogenesis in *Acetabularia*

14. Phytonic theory

15. Flower regulatory genes

16. Callose and its role in microsporogenesis

17. Genetics of female gametophyte development in *Oryza sativa*

18. Barriers to fertilization

19. a) Male germ unit; b) Components of an ovule

**C. Give a comprehensive account of any TWO of the following 2x10=20**

20. a) Cellular and morphological changes during conversion of vegetative shoot apex into reproductive apex

 b) Processes of xylem differentiation

21. Sexual incompatibility, genetic basis of self incompatibility and its significance

22. a) Endosperm development and types

 b) Embryogeny in *Najas*