Reg. No ..... Name **20P3046**

M. Sc DEGREE END SEMESTER EXAMINATION - OCT/NOV 2020: JAN 2021

SEMESTER 3 : BOTANY

COURSE : **16P3BOTT12 : PLANT REPRODUCTIVE BIOLOGY, PALYNOLOGY & PLANT BREEDING**

(For Regular - 2019 Admission and Supplementary - 2016/2017/2018 Admissions)

Time : Three Hours Max. Marks: 75

PART A

Answer any 8 (2 marks each)

1. Differentiate monothecous and dithecous anthers. Give examples.
2. Explain different types of Hydrophilous pollination?
3. Explain the role of Arabino Galactan Protein in pollen tube growth
4. What is Distyly?
5. Briefly explain primexine model of pollen wall formation.
6. What is BK medium? Write its composition.
7. What is meant by melisso-palynology?
8. What is seed dormancy?
9. What is the genetic consequence of cross pollination?
10. Explain dominant hypothesis.
11. Describe the methods of mutation breeding.
12. What is the role of genetic variability in plant breeding?

(2 x 8 = 16)

PART B

Answer any 7 (5 marks each)

13. With the help of suitable diagrams explain stages of megasporogenesis
14. Explain the adaptations of flowers and their respective pollinators of Melittophily, Psychophily and Ornithophily.
15. Explain the pollen tube entry into the ovule and events in the ovule after the pollen tube entry.
16. What is meant by FDA/FCR test? How it is significant in pollen biology?
17. Give an account on uses of pollen in pharmaceuticals and cosmetics.
18. What is Myrmechochory? What are the adaptations of Myrmechochorous seeds?
19. Explain the contributions of Prof P Maheswari to plant embryology
20. Explain the genetic basis of male sterility in plants?
21. Explain inbreeding depression. How it can be overcome?
22. Explain the principles and working of Gamma gardens

(5 x 7 = 35)

PART C

Answer any 2 (12 marks each)

23. Write an essay on the structure, development, and functions of endosperm.

OR

24. Discuss the genetic, biochemical and physiological mechanisms of self-incompatibility in angiosperms

25. Write an essay on the seed dispersal and dispersal agents

OR

26. Briefly discuss the concept of centers of origin of species. How is this information useful in plant breeding?

(12 x 2 = 24)